



## Mapping Innovation Policy – an application to the European Union

by

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## **Short Biography**

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## **Abstract**

Innovation is an old phenomenon as well as a current debate, on top of the agenda of policy-makers for many years. It is widely accepted as the driving-force of an economy whilst it is hard to frame into a single and simple definition, provided that it may emerge in any sector of activity. Micro level assessments of the impacts of Innovation Policy are commonly restricted to the analysis of instruments designed to tackle low innovative performance problems. In this research, we aim to draw attention to the role of other instruments, designed with other purposes, in the promotion of innovation. In order to do so, a new methodology is proposed, considering the domains of Innovation Policy and respective fields of action. It is expected to identify the policy instruments that promote innovation, whether they have been established as innovation policy or not. This mapping exercise shall constitute a first step to a more complete evaluation of innovation policy in its broad definition.

For the implementation of this method, we have used the European setup and represented a map of its Innovation instruments. All in all, EU policy has a sound basis of innovation-support in the design of its policies, namely through the typology of actions and beneficiaries' eligibility. We conclude on the importance of the design of instruments, in order to make them innovation-support instruments.

JEL-Codes: O38, O32,

Key-words: Innovation, Innovation Policy, Policy instruments, Innovation studies, European Union, policy complexity

## **Resumo**

A inovação é um fenómeno antigo e, no entanto, um debate atual, frequentemente na agenda do dia. É facilmente reconhecida como a força motriz da economia, ainda que seja difícil associar-lhe uma definição, podendo surgir em qualquer setor de atividade. Os estudos microeconómicos que se debruçam sobre o impacto da política de inovação analisam os instrumentos que são concebidos especificamente com o intuito de aumentar o desempenho inovador das empresas. No presente estudo, procura-se demonstrar que há outros instrumentos, concebidos com outros propósitos, que também influenciam o desempenho inovador das empresas. Para tal é desenvolvida uma metodologia que pretende identificar os domínios e os campos de ação da política de inovação. É ainda desenvolvido um estudo de caso aplicando esta metodologia ao caso da União Europeia, mapeando os instrumentos que cumprem os requisitos da política de inovação. Conclui-se que a política da União Europeia está construída numa base sólida de apoio à inovação, especificamente através da conceção dos instrumentos de política, nomeadamente através da tipologia de ações e da elegibilidade dos beneficiários. Conclui-se ainda sobre a importância do formato de conceção dos instrumentos, tendo como objetivo torná-los instrumentos para a inovação.

Códigos-JEL: O38, O32

Palavras-chave: Inovação, Política de inovação, Instrumentos de política, Estudos de inovação, União Europeia, Complexidade de políticas

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## Chapter 1 - Introduction

According to the European Commission (EC), Europe is currently facing a situation of “innovation emergency”. In fact, in 2014, EU’s investment in innovation, measured as Gross Domestic Expenditure on Research & Development (R&D), GERD, is 0,8% lower than in the USA and 1,4% lower than in Japan. Europe spends only 2,0% of its Gross Domestic Product (GDP) on R&D, which means that we are still lagging behind on the objective, settled in the Lisbon Strategy, that investment in R&D should represent 3,0% of EU GDP (see Table 1).

**Table 1 - Expenditures on R&D, 2014**

<b>Regions</b>	<b>GERD (% of GDP)</b>
<b>EU, 28</b>	2,0%
<b>USA</b>	2,8%
<b>Japan</b>	3,4%
<b>China</b>	2,0%

Source: OECD, Eurostat, UNESCO. <sup>1</sup>

Looking forward to 2020, the EC settled the Innovation Union as one of its seven flagships (European Commission, 2010b). The Innovation Union is at the centre of the European Union (EU) strategy to create smart, sustainable and inclusive growth, making Europe highly competitive.

Based on the evidence that innovation leads to higher rates of growth (Aerts & Schmidt, 2008; Hashi & Stojčić, 2013), governments establish the legal environment to promote innovation and directly encourage innovative firms to perform better (Wu *et al.*, 2007).

The Innovation Union is presented in 30 key actions to be implemented transversally through different European policies. Some key actions, considered mainstream Innovation Policy instruments (Veugelers, 2015), are implemented within the programme for research and innovation of the EC, namely the Framework Programme 7 (2007-2014) and Horizon 2020 (2014-2020). Notwithstanding, Innovation Policy is a

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<sup>1</sup> June 2014, retrieved from The Innovation Policy Platform (IPP) that is a joint initiative developed by the OECD and the World Bank: <https://www.innovationpolicyplatform.org/content/statistics-ipp> (accessed on October 2015).

broad term that has an impact throughout the economy. The present study has a twofold objective. First, it aims to design a framework and a methodological protocol to map Innovation Policy and secondly, use the European setup to implement the proposed framework.

There is a strong argument to uphold the use of economic policy towards innovation and technical change but it is also evident an increasing use of policies in related areas, such as environmental, which impacts on innovation outcomes (Hall, 2002a). These policies should be taken into consideration in the assessment of the performance of Innovation Policy.

In fact, innovation researchers, even recognising that a wide spectrum of policies may influence innovation, when assessing their impact, narrow the evaluation field towards programmes that support public research (David *et al.*, 2000; Jaffe, 2002; Aerts & Czarnitzki, 2005; Wu *et al.*, 2007; Spanos *et al.*, 2015). The present study aims to contribute to reduce this gap in the literature by recognising, on one hand, the presence of such instruments within sectorial programmes, therefore part of Innovation Policy, and proposing, on the other hand, a methodology to identify those instruments in order to include them in future Innovation Policy assessments.

The outline of this dissertation is as follows. On the second chapter there is a focus on the Innovation Policy, its reasoning and main instruments. Furthermore, the concepts of policy-mix and systems of innovation are explained in detail. On the third chapter there is an extended description of the European System of Innovation, its main characteristics and policy instruments. The fourth chapter proposes a framework to map Innovation Policy, an application of the European Union setup and the results. On the fifth chapter final considerations are highlighted, with the identification of the main limitations of this work and future venues for further research.

## **Chapter 2 - Innovation**

Fagerberg (2004, p. 1) stated that “Innovation is not a new phenomenon. Arguably, it is as old as mankind itself.” Hall (2004, p. 2) dared to go further and said that “humankind does not have a monopoly of innovation”, giving an example of innovation and diffusion processes among a community of macaques. And, in fact, Schumpeter links innovation to economic development, as the emergence of new combinations that are more efficient and viable than the old ones. The definition given in his Theory of Economic Development embraces product, process, market, input and organisational innovation (Schumpeter, 1934 *cf.* Drejer (2004)). Taking Schumpeter’s work as a point of departure, further developments have been added to the definition of innovation. This study will be based on the definition proposed in OECD (2010) for being frequently used and for its orientation towards market impact.

### **2.1. The Economics of Innovation**

#### **Definition of Innovation**

Innovation is repeatedly used in different contexts without a clear understanding of the concept (Langergaard & Hansen, 2013). Only by recognising what is innovation and what it entails, it is possible to design new approaches to foster innovation (Baskaran & Mehta, 2016).

Innovation can occur in any sector of activity, in different contexts, and in the public, private or social sector (Langergaard & Hansen, 2013). Its appearance can be intentional and inducted or it may appear in an organisation without deliberate and systematic innovation activity (Langergaard & Hansen, 2013). It can originate at different levels: local, cross-organisation or national (Albury & Mulgan, 2003).

Moreover, the innovation concept is used in different contexts namely, in research projects, management procedures and policy-making (Langergaard & Hansen, 2013). These areas differ in their scope, targets and procedures. When assessing innovation matters, it is important to recognise the intent to do so and define the dimensions of the concept that will be taken into consideration.

Innovation acts as a transformative process for all societal institutions (Baskaran & Mehta, 2016), and therefore, only a broad definition can accommodate the concept in all its extent. The broad definition of innovation includes:

- **Product/Services innovation** as the “ *...creation and implementation of new processes, products, services and methods of delivery which result in significant improvements in outcomes efficiency, effectiveness or quality*” (Albury & Mulgan, 2003, p. 3)
- **Ad hoc innovation**, defined as the one closest to daily practice rather than organised in more formal structures (Jong & Vermeulen, 2003);
- **Social Innovation**, that encompasses its ends and means meeting a social need. It includes particularly the development and implementation of new ideas and the creation of new social relationship and collaborations (Regulation (EU) No 1296/2013, 2013);
- **Public Sector Innovation**, meaning the quality, efficiency and effectiveness improvements and responsiveness of government and public service organizations (Moore & Hartley, 2008);
- **Policy Innovation**, meaning new policy directions, policy instruments or initiatives (Albury & Mulgan, 2003)

Despite the importance of considering the broad concept of innovation, as Langergaard and Hansen (2013) claim, this type of broad conceptualization of innovation weakens its utility when it comes to the assessment of its impact. For instance, public sector innovation could be seen as improvements in the democratic decision-making process and by securing political, civic and social rights of citizens. The goals and values mentioned are dramatically different from the ones of the private sector, that are linked to the market functioning. Therefore, in order to evaluate the impact of innovation, we consider that it is not recommended the use of the broad definition of innovation, being preferable to take a less ambitious but clearer perspective over it.

In the present research we embrace the viewpoint of the policy impact on the market, given that the aim is to map the instruments that promote innovation with market orientation. Therefore, we will follow the Schumpeter-lead definition of the Oslo Manual (2005):

*“An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations.”(OECD, 2005, p. 46)*

### **The Process towards Innovation**

The linear model about invention and innovation assumes a process that starts with invention over innovation to implementation. Innovation is regarded as the process of development of a product or process, from idea to market, whereas invention is the creation of new knowledge *per se* (Kaiserfledt, 2005). Even though this model has been criticized as oversimplified, it remains true that without invention there would not be market innovation or diffusion (Hall, 2004).

Accordingly, Schumpeter sees innovation as a specific economic activity with a commercial purpose in contrast to inventions that do not have a commercial purpose (Schumpeter 1934 *cfr.* Fagerberg (2003)).

The determinants of innovation together with the innovations themselves form the system of innovation that is, traditionally, subdivided in two activities namely, the creation of knowledge and the financial support of innovation activities. Borrás and Edquist (2013, p. 1518) suggest a holistic view over the system of innovation, dividing its activities into four groups:

- i. Provision of knowledge
  - a. R&D results are the ground where to support new knowledge
  - b. The knowledge created allows for formal and informal learning (competence building and organizational learning)
- ii. Demand-side activities
  - a. Creation of new markets
  - b. Answering to new demand requirements
- iii. Building the framework
  - a. Changing the business landscape towards a more innovative one
  - b. Promoting the set-up of networks, transferring the knowledge between areas and connecting the Innovative System
  - c. Influencing the innovation organizations and the innovation process by influencing the cultural and legislative framework

- iv. Create the conditions for the innovative process
  - a. Support to entrepreneurial activity (such as incubation)
  - b. Finance knowledge creation and its commercialization
  - c. Promote the use of consultancy services related to innovative process, such as technology transfer, commercial information or legal advices.

R&D is one way to achieve innovation-based growth, as are the other nine activities mentioned above. Although the relationship between R&D and innovation is complex and nonlinear, it is considered that a conscious investment is required in order to have technical change (Griliches, 1991) and moreover that R&D is the most direct way towards innovation (Guellec & Van Pottelsberghe de la Potterie, 2004).

Taking into consideration the relevance of the market in the definition of innovation adopted, we will take a thorough look at the unit-base where innovation emerges: the firm.

### **The innovative firm**

A lot of effort has been devoted to the characterization of the innovative firms, but the activity of innovation differs among industries, institutional framework and firms specificities (Nieto & González-Álvarez, 2014). In order to understand the differences of innovative performance among industries, Cohen (2010) explores three explanatory variables: appropriability, technological opportunity conditions and demand.

The problem of imperfect appropriability is roughly solved by the use of patents that grant the inventor with the exclusivity of the invention's use. However, the evidence shows that patents are only effective in a few industries. In the remaining industries, firms adopt different means of appropriation, making use of existing barriers to imitation, of marketing tools or other complementary capabilities (Cohen, 2010).

Regarding the conditions for technological opportunity, it is widely accepted that they differ among industries and that they influence not only R&D and technical advance but also the evolution of market structure and entry/exit movements. Little progress has been made on the development of parameters to measure technological opportunities and thus, there is no empirical evidence to sustain the general belief of the relevance of technological opportunities (Cohen, 2010). Nieto and González-Álvarez (2014) proved

that firms operating in technological industries are more innovative than the ones from other sectors because they have more resources that can be transformed into new processes and products.

Schmookler (1962) presented on his seminal work a theory that explained technological change by the behaviour of profit-seeking firms, considering demand as the driving force of innovation. The two main reasons that lead to different demand conditions among industries are market size and price elasticity of demand. On one hand, the benefits of innovation are proportional to the size of the market, hence more innovation is expected in bigger markets. On the other hand, the effect of the price elasticity of demand on the firm's investment in innovation is ambiguous and differs between product or process innovation. The relevance given to the demand side is grounded on a view that innovation is the outcome of the interaction between firms and their customers, even though it does not exist sound empirical evidence on how demand affects R&D incentives (Cohen, 2010). The theory of Schmookler (1962) gives prominence to demand-pull policies instead of technology-push. However, several studies have confirmed that both technology-push and demand-pull policies induce innovation, and the debate around the thriving forces of innovation leads us to the search for a combination of both (Peters *et al.*, 2012).

The innovative performance of each firm depends heavily on the surrounding context. As Nieto and González-Álvarez (2014) show, innovative activities are influenced by the corporate environment, the geographic location of the firm, the number of patents in that region, the social capital, the government and its public policies or even the surrounding culture.

Several internal factors of firms influence their innovative performance, given that the bigger the level of internal R&D, the greater the returns from their innovation activity (Nieto & González-Álvarez, 2014).

## **2.2 Innovation Policy**

The concept of Innovation Policy can be presented in different ways: on a narrow scale, considering only the policies created with the intent to solve low innovation intensity problems (Edquist, 2011b; Magro *et al.*, 2014), or on a wider scale, involving

all policies that have an impact on innovation (Fagerberg, 2014; Magro *et al.*, 2014). Borrás (2009, p. 2) has explained the concept “widening of Innovation Policy” as broadening its scope of action. In fact, within this perspective, the Innovation Policy is not only the responsibility of Science Technology and Innovation (STI) policy, but should also be a responsibility for policies acting in other fields of action. Several empirical studies have shown that policies in different areas such as antitrust or environmental issues have had a considerable impact on the performance of the Innovation Policy (Hall, 2002a).

This study intends to map the instruments that influence innovative performance. Following the clarification of innovation-related concepts, we will analyse in detail the instruments that fit into the given definition of Innovation Policy. We will start by analysing in detail how Innovation Policy has been studied throughout the years.

### **2.2.1 The study of Innovation Policy**

Innovation is an old phenomenon and it has been influenced by policies under different labels. The common term used in the 1960’s to name these type of policies was “science policy”, later substituted by “technology policy”. Nowadays, “Innovation Policy” is frequently used (Fagerberg, 2014).

The study of policies and the process to learn from them cannot be understood without the development of the research field itself (Mytelka & Smith, 2002). The study of Innovation Policy, herewith included in Science Policy and Innovation Studies (SPIS), began to emerge as a distinct and organized discipline during the 1960’s in the intellectual environment that surrounded the Science Policy Research Unit (SPRU) at the University of Sussex (Fagerberg, 2014). During the 1980’s, the field evolved around an evolutionary economic framework, gaining coherence and emerging as an independent field of study, specially visible in the SPIS-specific journals *Research Policy*, *R&D Management* or *Technovation* (Martin, 2012). However, the terms “Innovation Policy” and “Systems of Innovation” only became usual during the 1990’s when the OECD and most countries brought light to the subject (Fagerberg, 2014).

Innovation Policy studies have increased in quantity and complexity through different approaches in the past decades (Magro *et al.*, 2014). Fagerberg and Verspagen



(2006) studied the established global community of innovation scholars but considered that the social organisations required to form a discipline in terms of a common knowledge base are still too fragmented to name innovation studies a discipline. In fact, there is a recognized global community of innovation scholars still supported by a weak set of social organisations, insufficiently funding sources, and few international conferences, leading to the conclusion that Science Policy and Innovation Studies is not yet a formal discipline (Fagerberg & Verspagen, 2006; Martin, 2012) but it is possible to recognize discipline-like aspects.

There is not a linear mechanism from theory to policy implementation (Radošević, 2012); instead they co-evolve in a process of interactive learning influencing one another through times (Mytelka & Smith, 2002). It is important to notice for the present study, that there is not a linear path from theoretical or conceptual knowledge towards policy-making.

### **2.2.2 Reasoning for Innovation Policy**

Traditionally, the support to knowledge production activities was justified by the poor appropriation of benefits by private providers leading to underinvestment in R&D activities (Radošević, 2012). R&D is a knowledge-based activity and thus entails the characteristics of a public good: non-rival and non-excludable (Bach *et al.*, 2014). On one hand, it is non-rival because the use of knowledge will not reduce the amount available for another user, nor its quality. On the other hand, it is non-excludable because artificial intervention is required in order to exclude some user from it.

Public intervention is thus required in knowledge-based activities such as R&D, and other activities that increase innovative performance of firms. In this section we will describe two viewpoints on the reasoning for Innovation Policy: the neoclassical and the evolutionary.

From the neoclassical point of view, the market failure that leads to underinvestment in business R&D can be explained in three dimensions: the imperfect appropriability, the imperfect excludability and the high risk associated with R&D activity (Wu *et al.*, 2007). The first two characteristics of business R&D sustain the presence of positive externalities of R&D (Dietzenbacher & Los, 2002), namely that they

hinder the full appropriation of outputs by the innovator, generating the opportunity for other firms to free-ride. The unpredictability of the outputs of research make the investment more risky (Arrow, 1962), thus generating a gap between the private rate of return and the cost of external capital (Hall, 2002a, b). The activity of innovation is both costly, given the indivisibility of its inputs and outputs, but also uncertain given the “paradox of information” (Arrow, 1962, p. 615), i.e. the buyer only knows the value of the information once he/she buys it. This way, it is relevant to promote information transparency in order to reduce uncertainty (Bach *et al.*, 2014).

Empirical evidence confirms that the social return to R&D is higher than private return to R&D (Griliches, 1991; Hall, 1996; Jones & Williams, 1998). Therefore, without intervention, the level of private R&D expenditure will always be below the socially desirable optimum (Arrow, 1962; Griliches, 1991; Aerts & Czarnitzki, 2004; Wu *et al.*, 2007; Aerts & Schmidt, 2008).

Centralized intervention aims at creating the conditions that allow the innovator to appropriate the benefits of its performance in order to increase private investment in R&D. Nevertheless, no legal framework can assure the total appropriability by its producer, once the simple use of the information in any product reveals it (Arrow, 1962).

The neoclassical market failure framework is mainly grounded on a “linear” approach to innovation that is no longer the prevailing perspective (Magro & Wilson, 2013) and cannot tackle the dynamic issues and dimensions of Innovation Policy like uncertainty and systems of innovation (Radošević, 2012).

Another perspective emerges within the framework of the evolutionary theory, largely embracing Schumpeter’s contributions and his dynamic perspective, distant from the concept of a stationary equilibrium process that is a basal line in mainstream neoclassical theory. Within this perspective, innovation is considered a dynamic process because the knowledge, inventions and innovations created today are sustained by the ones created in the past (history matters), and together constitute the engine that promotes novelty. The benefits of innovation arise with a time lapse in order to allow for the diffusion process (Hall & Rosenberg, 2010).

Supporting the idea that innovation is at the centre of capitalism, Schumpeter broadens the concept of process innovation including elements such as the development of new products (or variants), new types or higher quality of intermediary products, the

creation and exploitation of new markets and new organizational methods (Schumpeter 1934, 1943 *cfr.* Fagerberg, 2003). Moreover, innovation is considered an evolutionary process given that, for a particular moment in time, there are several efforts to advance technology that compete among themselves, and an “ex post selection mechanism” determines the success of some (Dosi & Nelson, 2010, p. 64).

Imitation, and therefore diffusion, plays a relevant role in the evolutionary theory, given that the economic reward of a successful innovation exists until the point that a sufficient mass of imitators has successfully entered the scene (Dosi & Nelson, 2010). Diffusion is part of the innovation process, including the act of learning, imitating and giving feedbacks. The learning capacity is a context-dependent process and determines the capacity to absorb knowledge and to create new knowledge (Bach *et al.*, 2014). Enlarging the typical concept of diffusion that is used by Hall (2003), as a process by which a new technology is adopted within the society, diffusion can be seen as “the process by which the market for a new technology changes over time and from which ownership or usage pattern result” (Stoneman & Battisti, 2010, p. 735).

Systemic failures occur if one of the above-mentioned mechanisms is not well geared. Infrastructural failure is the lack of physical support where to base innovation; institutional failure is a deficient design of the “rules of the game” to promote innovative activity; capability failure is the limitation of the learning capacity that will hinder the absorptive and creative process; interaction failure is the lack of coordination among innovators and between innovators and other actors (Woolthuis *et al.*, 2005 *cfr.* Bach *et al.*, 2014). The need to address systemic failures constitutes one of the rationales for defining systemic policies (Edquist, 2011a; Magro *et al.*, 2014).

Summing up, from an evolutionary perspective, there are two possible actions when politicians consider that the economy could perform better in terms of innovation. The first is to promote the creation of new variety (that can be achieved, for instance, by subsidizing R&D in different sectors). The second action would be to ease the process of diffusion by increasing the capacity of the economic system to absorb innovations (Fagerberg, 2003).

In spite of the evolution of theoretical rationales, the path-dependency in the policy-making process implies a situation in which there is no pure neoclassical or evolutionary policies, but rather a mix of rationales embodied in a set of policy

instruments. In fact, market and systemic failures can occur simultaneously and the need for Innovation Policy to address both has become widely accepted, theoretically (i.e. academic sphere) and in practical grounds (i.e. policy makers) (Hall, 2002b). Furthermore, it is possible to differentiate ‘policy rationales’ as ‘policy goals’ from ‘theoretical rationales’ (Magro & Wilson, 2013). Herewith, theoretical rationales from the neoclassical and evolutionary theory have been explained.

### **2.2.3 Policy Mix**

Although the term “policy mix” emerged around the 1960’s and exploded massively in economic policy literature in the late 1980s/ early 1990s, its application to Innovation Policy only appeared in the beginning of this century through environmental and macroeconomic discourses. The term emerged from the realization that policies interact with each other in complex relationships of complementarity/overlapping/substitution (Mundell, 1962). Its use in the EU policy and, specifically, in Innovation Policy lead to an understanding based on two developments. The first reflects the fact that successful innovation-driven economy depends on a combination of policies that influence innovation (not only R&D). The second comes from the dispersion of governance structures introducing a multi-layer administrative dimension (Flanagan *et al.*, 2011).

Borrás (2009) addresses the broad range of policies in a twofold manner: the widening of Innovation Policy as the introduction of innovation concerns into other, more traditional, policy fields (as mentioned in chapter 2.2) and the deepening of instruments as the use of more complex instruments, acting directly or indirectly, on the demand or supply side of innovation.

The view of “Innovation Policy mix” as an extended use of ‘portfolio of Innovation Policy instruments’ is considered weak, misleading the understanding of its limits beyond the scope of action of S&T policies (Flanagan *et al.*, 2011).

Nowadays, the use of the term of “Innovation Policy mix” reflects a more holistic view over innovation considering a system of innovation where different actors, ideas, structures, institutions and existing policies interact in a way to provide innovation (OECD, 2010). It revolves around four dimensions of policy, namely, (i) domains, (ii)

rationales, (iii) strategic tasks and (iv) instruments, that interact in two possible ways: inter-dimension and intra-dimension. The former is given by the relationships between the four policy dimensions and the latter from the interactions within each policy dimension (OECD, 2010).

Policy domains refer to the addressed areas and influence the rationales for the correspondent policy interventions that are gathered in one strategy and implemented through policy instruments. Theoretically, every instrument should be included in a strategy and linked with a rationale, matching a certain policy domain (OECD, 2010). However, the reality does not meet this expectation, by means of:

- i. the interactions between all the actors in the system of innovations repeatedly creating obstacles and divergent paths, specially due to coalition of interests;
- ii. the institutionalization of frequently used strategies and instruments, disconnecting from policy rationales;

In order to bring closer the flow that goes from the domains definition towards instrument implementation, it is important to consider the policy mix on the four policy domains when formulating Innovation Policy. Moreover, it is relevant to consider a balance in the interactions within each of the policy dimensions in order to assure coherence.

#### **2.2.4 Policy Coordination**

Following the perspective of policy-mix and multi-level governance (characterized by the dispersion of governance structures), it becomes visible an increasing complexity of the policy implementation that requires a more complex system of coordination (Magro *et al.*, 2014). Policy coordination drives from the will to reduce the bureaucratic burden, bringing the state more efficient, and from the search for coherence in the decision making process (Braun, 2008). Coordination modes have been under focus on governance literature since Brickman (1979) introduced the concepts of (i) atomistic coordination, where the actors voluntarily change their policies or behaviours without any effort to jointly find an integrated solution, (ii) low coordination, where

agents act under the umbrella of a common framework inspired by rational-technical criteria, and (iii) high coordination characterized by an overarching framework of policy directives. Moreover, Brickman (1979) distinguished between vertical/centralized coordination, when authorities gather into one strategy, several territorial level entities, and horizontal/decentralized coordination as the cooperation among governmental units in a given policy level.

On another perspective, Braun (2008) distinguishes coordination modes at a ministerial level such as external coordination, when the case is of bargain and/or cooperation between administrative units, or internal coordination when the policy set is due to one single overarching organisation (i.e. *superministry*).

Different levels of coordination require different levels of policy integration and, therefore, different investments of political capital. On a different perspective Peters (2005) proposes four modes of coordination: negative coordination, positive coordination, policy coordination and strategies for governments. Negative coordination is the most basic form of coordination, where government organizations and programmes, not independent from each other, act in order to prevent negative responses from other actors. Contrarily, positive coordination is the reconnaissance of the benefits of cooperation of different programmes while pursuing individual goals. Furthermore, policy coordination requires a broader understanding and the commitment to common policy goals, involving bargaining and perhaps the imposition of the higher-level authority. Finally, the last stage of policy coordination named strategies for governments, translates a step further in the policy integration and allows the undertaking of common issues across the policy arena.

The understanding of interactions between policies is an important component of any system of innovation, further explained below.

### **2.2.5 System of Innovation**

The relationship between innovations in firms and the surrounding context has been described in the shape of a system, formulating what is known by the innovation-system literature (Fagerberg, 2004). The general goal of any system of innovation is to produce, diffuse and use innovations. Furthermore, its' specific functions are the

determinants of innovation (Borrás & Edquist, 2013) as mentioned in the beginning of the section 2.1.

The System of Innovation (SI) approach gained light in the early 1990's along with the evolutionary perspective of innovation, stressing the relevance of formal and informal institutional dimensions for the innovative process (Borrás, 2009). Initially, a bigger emphasis was given to national systems of innovation, related to the most influential early contributors that defined the three leading streams of systems of innovation analysis: Freeman, Lundvall and Nelson (Soete *et al.*, 2010; Edquist, 2011b). National systems of innovations were followed by sectoral and regional (Cooke, 2001) variants. In fact, the use of a system-perspective at a geographical level offers policy makers a tool for analysing innovation processes and influencing them (Soete *et al.*, 2010).

Edquist (2004) highlights the main characteristics of the Systems of Innovation as an interdisciplinary approach that brings the innovative and learning process to the centre. SI undermines the concept of optimal by adopting an evolutionary perspective promoting the comparison between SI instead of the consideration of an optimal state. The systems of innovation are built upon process and product innovation, emphasising interdependence and non-linearity processes sustained by certain institutional structure.

The understanding that the emergence of innovation within a firm heavily depends of external sources, leads to a holistic view of a firm in a specific system limited by its technological, industrial or sectorial aspects. This view is in line with the characteristics of the innovative firm given by Nieto and González-Álvarez (2014) presented in section 2.1. Other aspects that may lead the systematic construction of innovative process are the characteristics of institutions, the political process, the public R&D infrastructures, the financial institutions and the skills of the workforce (Fagerberg, 2004).

There are, however, some implications associated with the system-perspective of the innovative process that must be addressed. Firstly, it gives emphasis to the linkages within the system (Braun, 2008), especially the patterns, constraints and outcomes of those interactions. When a certain path is selected, it implies several choices within the firm that are associated with the development of the linkages within the system. The path dependence of certain choices triggers costs for switching paths, from what follows the importance of keeping the openness of the system. System managers (i.e. policy makers),

are responsible for assuring that the system is open to external inputs, thus avoiding negative effects of path-dependence. Secondly, the growth/development of the entire system depends on the growth of each component of the system. The underdevelopment of one component reflects on the entire system, creating bottlenecks. Bottlenecks can arise from technical specificities but also from the lack of proper infrastructures or skills capacity. System managers must act to prevent such bottlenecks, streamlining the systems' functioning at the level of skills and economic infrastructures (Fagerberg, 2004).

The simplified vision of Magro and Wilson (2013) over systems of innovation encompasses the later aspects mentioned in a policy-mix and multi-level holistic view. On one hand, the policy-mix takes into consideration the linkages established between policy instruments and the complementarities among them and on the other hand, it acknowledges the different administrative levels.

### **2.2.6 Policy Instruments**

Innovation is hardly a goal itself, but a means to achieve a broader objective. The ultimate objectives of Innovation Policy are delineated through a political process and can be economic, social, environmental, etc. Once determined, it is necessary to define, in innovation terms, the direct objectives that will constitute the target for the implementation of Innovation Policy instruments. The direct objectives are designed to meet the ultimate policy objective. Given that Innovation Policy solves problems of low innovation intensity, it is required to identify such problems (Borrás & Edquist, 2013).

In order to identify innovation related problems and to understand their causes, one can make use of different sources of information such as innovation indicators<sup>2</sup> or different studies as benchmark, foresight or even evaluations (Saltelli *et al.*, 2011). Innovation Policy used to be an aggregation of instruments focused on increasing spending in science, basic research and other innovative activity (Hall, 2002a), but suffered a shift to a more complete set of instruments with the aim to fulfil several political objectives. While formulating the Innovation Policy, decision makers are

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<sup>2</sup> R&D measures, patent counts, scientific publication counts, Information and Communication Technologies (ICT) expenditures, disbursement of venture capital funds, counts of technology alliances, measures of education.



required to define the tools that will constitute it. Therefore, innovation instruments are, on one hand, part of the Innovation Policy and, on the other hand, the implementation of the policy itself (Borrás & Edquist, 2013).

Based on the tripartite configuration of policy instruments presented by Verdung (2003) and adapted by Borrás and Edquist (2013, p. 1517), in Table 2 it is presented an extensive list of policy instruments, divided according to the use decision makers give to the available resources.

**Table 2 - Instruments of Innovation Policy**

Category	Innovation Policy Instruments
Regulatory Instruments and binding regulations	Intellectual Property Rights (IPR); Regulation of research entities; Anti-trust regulation concerning R&D activities; Anti-trust regulation concerning innovation introductions on the market; Ethical regulation concerning R&D activities; Specific sector regulations;
Economic and financial Instruments	Public support to research entities; Market-based incentives: competitive research funding, tax incentives, support to venture and seed capital; Public procurement for innovation;
Soft Instruments	Setting of standards on voluntary basis regarding R&D, innovations or organizational activities; Public-Private agreements; Communication instruments.

Source: Borrás and Edquist (2013).

In order to raise the business investment level to the socially desirable optimum, the government must act in two different fronts (Wu *et al.*, 2007): (i) the creation and maintenance of legal conditions that allow for innovators to appropriate the benefits of innovation (using law and binding regulations), and (ii) the provision of incentives to promote private R&D investment (through economic transfers or soft instruments). The policy instruments listed in Table 2 accomplish the mentioned goals.

In order to set the environment for innovations to emerge and set the “rules of the game” for knowledge creation, governments use regulatory measures. The most straightforward way is the regulation of IPR (patents, copyrights and trademark), but also the regulation of research institutions, anti-trust policy and ethical issues related to

innovative activities. The creation and strengthening of a patent system leads to an increase in the use of patenting but it is no consensual that it leads to an increase in the innovation activity, it might just redirect the innovation activity toward things that are patentable (Hall, 2002a). In fact, when discussing the regulation on innovative activities, several issues arise given the specific features of innovative industries that stand in the way for a competitive market. The establishment of IPR enhances the network effect,<sup>3</sup> limits the right not to licence a product and creates a hold-up problem when in a context of sequential innovations. It is extremely important to coordinate the IPR regulations with competition policy (Encaoua & Hollander, 2002). The network effect is particularly relevant for high-tech and information-technology where special issues emerge related to the economics of compatibility and standardization (Gandal, 2002).

Economic and financial instruments are widely used in Innovation Policy, being implemented by the use of economic incentives or disincentives.

Government support to business R&D and tax incentives have a direct influence on the private decision to finance R&D activities. Private R&D is determined by the marginal rate of return, which reflects the ranking of possible projects accordingly to their yields,<sup>4</sup> and the marginal cost of capital which reflects the opportunity cost of investment funds at different levels of R&D investment (Wu *et al.*, 2007). Direct subsidies for R&D raise the private marginal rate of return and tax incentives reduce the cost of R&D (David *et al.*, 2000). Effectiveness of R&D tax incentives in boosting spending in business R&D is confirmed in several empirical studies (Hall & Van Reenen, 2000; Billings *et al.*, 2001; Bloom *et al.*, 2002). With R&D tax incentives, firms are allowed to choose the projects they want to invest on, affecting the composition of R&D tending to favour projects with profits in the short-run (David *et al.*, 2000). By contrast, direct subsidies can shape the direction of research in order to attain needs identified in the political process or to target the projects that are perceived to offer higher marginal social rates of return. Opposing forces to finance socially desirable investments are the political wish to appear successful in the short term and the strength of lobbies to deviate from the social objective (David *et al.*, 2000). Through times, there has been a shift towards financing projects with

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<sup>3</sup> Network effect refers to the phenomenon of an increase in the value for one user that is caused by an increase in the number of users of the same product or service.

<sup>4</sup> Accepting the hypothesis of a rational firm that knows the expected cost and benefits of each project.

specific research orientation, moving away from blind delegation to the scientific community (Lepori, 2007).

Nowadays, most of the economic instruments act on the supply side, avoiding the problem of the “paradox of information” (Arrow, 1962, p. 615). Notwithstanding, the use of Public Procurement for Innovation (PPI) enhances the role of consumers and users, strengthening the demand side of certain products. This instrument is relevant to a series of fundamental pure public goods with a weak demand, such as green technologies (Borrás & Edquist, 2013).

Economic transfers enclose venture and seed capital due to the gap between the private rate of return and the cost of capital when the investor and financier are different entities, even considering the absence of externality-induced under-investment (Arrow, 1962). There is a private sector “venture capital”, particularly strong in the USA, that is focused on financing new and innovative firms, but even if the amount of venture capital available is high, it is not allocated entirely to firms (seed-money and start-ups) due to (i) asymmetric information between inventor and investor, (ii) moral hazard on the part of the investor or arising from the separation of ownership and management, and (iii) tax considerations that drive a wedge between external finance by retained earnings. There are several government funding schemes for start-up firms (such as government incubators, seed funding, loan guarantees, among others) but the evidence on their effectiveness is limited (Hall, 2002b). Lerner (2000) matched the firms financed by the USA programme Small Business Investment Company with firms that did not receive this funding, and concluded that the ones that received the former grew significantly faster than the others, concluding on the effectiveness of such program.

To complement regulatory and economic instruments, governments have increasingly used soft instruments, which can be followed on a voluntary and non-coercive way. They correspond to, for example, the application of technical, ethical or organizational standards, measures for the diffusion of scientific knowledge, the implementation of codes of conduct or the creation of public-private partnerships (Borrás & Edquist, 2013).

When designing Innovation Policy, it is necessary to match the mix of policy instruments that will address the problems of low innovation intensity (Bach *et al.*, 2014). Instruments should be customised to each particular context and their interactions should

be taken into consideration, bringing each set of policy instrument unique (Borrás & Edquist, 2013).

## Chapter 3 - EU Innovation Policy

### 3.1 Brief History

In order to offer an updated framework for EU Innovation Policy, it is necessary to understand how policy goals and their instruments have been evolving. The systematization offered in this section is based on Guzzetti (1995), *A Brief History of European Union Research Policy*.

It is plausible to say that Innovation Policy in the EU started in 1949 with the signature of the Statute of the Council of Europe in Paris. Instigated by the European Movement,<sup>5</sup> the primary objective of the Council of Europe was to encourage the cooperation of Member States in legal, social, administrative and scientific affairs.

Initially, Innovation Policy known as science policy, was mostly focused on research policy. In the EU it emerged through 3 institutions forming the nucleus of the Community research policy: the European Coal and Steel Community (ECSC), the European Atomic Energy Community (EURATOM), and the European Economic Community (EEC). The supra-national organisation of the Community Research had a lot of barriers: European policy did not always converge with national research policies, often leading to competitive and not cooperative processes.

In the mid-1960s the competitiveness of the USA was considerably higher than the Europeans'. This development was known as technological gap and became a main concern for European policy-makers. The American success was due to the complementarity of its institutions, allowing for a continuous flow from research to innovation to the market. Consequently, the more well prepared European researchers started emigrating to the USA looking for better research conditions (brain drain). As a result, Europe decided to adopt a joint position in order to become competitive with the world leaders, strengthening the areas where Europe had already an advantage. The European Commission (EC) promoted partnerships of researchers with big companies and student mobility (policy instruments concerning industry, education and training). In

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<sup>5</sup> The European Movement was a confederation of organizations, parties, trade unions and other groups promoting the unity of Europe.

fact, partnerships have gained a more relevant role within the development of European Innovation Policy, namely university-industry relationships, government-industry or among private firms (Hall, 2002a). Moreover, it was necessary to rethink industrial policy. The Colonna Memorandum<sup>6</sup> included a series of actions to be pursued in order to achieve a Single Market. It called for the elimination of disparities between national laws and fiscal borders, harmonization of standards and tax rates, and a liberalisation of public contracts (policy instrument concerning the labour market). The restructuring of business included also international mergers of European companies in order to become competitive in the world market.

ESPRIT, the European Strategic Programme for Research and Development in Information Technology, is a landmark on the history of R&D within the Community. It was created following the advice of the twelve largest European Information and Technology companies, the “national champions”. It was settled that the programme would finance mainly “precompetitive” research as a no-man’s land between basic and industrial research. Following ESPRIT, the first framework programme was settled, from 1984 to 1987, based on a set of criteria that justified the Community involvement, the “Reisenhuber criteria”<sup>7</sup> and included projects for technological innovation, which represented a big step in the responsibility of companies for the programme.

The three core institutions of Community Research were revised and reformed though the European Single Act, approved in February 1986 that introduced a series of policies, including policy on science and technology. Following the experience of the first framework programme, it established a multiannual framework programme that included the objectives to be achieved, fixed relevant priorities and settled the main rules of participation, promoting a close link between research centres, universities and firms for the completion of the single market.

More recently, In the Maastricht Treaty, article 130f one can read: “*The Community shall have the objective of strengthening the scientific and technological*

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<sup>6</sup> The Colonna Memorandum was a medium-term industrial policy programme sent by the Commission to the Council in 1970, named after its author.

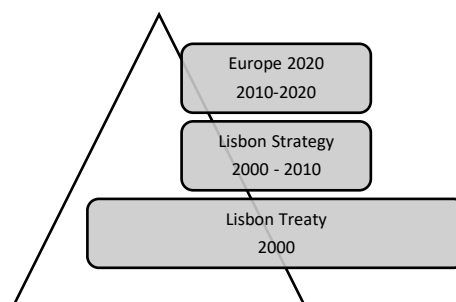
<sup>7</sup> Initially there were four criteria: when the financial capacity for a project is only found in the community; when the benefits from being pursued in cooperation overflows the investment; when it is focused on common problems; when the research contributes to the unification of European science and technology. Later it was added a fifth criterion regarding social and economic cohesion and a sixth regarding the mobility of researchers and the coordination of national policies.

*bases of Community industry and encouraging it to become more competitive at international level while promoting all the research activities deemed necessary by virtue of other Chapters of this Treaty*". It was also stipulated that all research and development activities should come within the framework programme. Hereinafter, the framework programmes succeeded: the 4th began in 1994 and ended in 1998, the 5<sup>th</sup> FP lasted from 1998 until 2002, the 6<sup>th</sup> from 2002 to 2006 and the 7<sup>th</sup> began in 2007 and lasted until 2013.

The Treaty of Lisbon, amending the Treaty on European Union (Maastricht) and the Treaty establishing the European Community, signed in Lisbon, constituted an agenda for reform and settled the goal for the EU *"to become the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion"*.<sup>8</sup> In the same year it was designed a strategy for the ten following years named Lisbon Strategy. It aimed to formulate the direct objectives that would be affected by Innovation Policy instruments and thus accomplish the ultimate objectives presented in the Lisbon Treaty, as represented in Figure 1. The Lisbon strategy presented the objective to transform the supply side of the European Economy promoting the transition to a knowledge intensive society (Armstrong, 2008).

Following the mid-term review of the Lisbon Strategy in 2005, it was stated that the ambitious goals settled in 2000 were far from being delivered as a result of difficult economic conditions, an overloaded policy agenda, and a complex coordination between Member States (MS) and the European Commission (EC), with conflicting priorities. Comparing Europe to its direct competitors, it was still lagging behind in terms of competitiveness and on the share of GDP invested in R&D activities.

**Figure 1 - Definition of EU priorities**



<sup>8</sup> Presidency conclusions of the Lisbon European council 23 and 24 march 2000; Source: [http://www.europarl.europa.eu/summits/lis1\\_en.htm#b](http://www.europarl.europa.eu/summits/lis1_en.htm#b) (accessed on December 2015).

The ten-year job and growth strategy that followed the Lisbon strategy was named Europe 2020 and covers the period from 2010 to 2020. The hierarchy is explicit in figure 1. Europe 2020 is embedded in the spirit of the Lisbon treaty, and aims to promote a smart, green and inclusive economy. It is based on five main targets concerning employment, research and development, climate/energy, education, social inclusion and poverty reduction. Regarding R&D, there is a specific aim to reach the threshold of 3% of the EU's GDP invested in R&D by 2020. In order to implement Europe 2020 strategy, the EU together with the Member States defined seven flagships, presented in Table 3.

**Table 3 - Seven Flagships of Europe 2020 Strategy**

<b>Smart growth</b>	Digital agenda for Europe Innovation Union Youth on the move
<b>Sustainable growth</b>	Resource efficient Europe An industrial policy for the globalization era
<b>Inclusive growth</b>	An agenda for new skills and jobs European platform against poverty

Source: [http://ec.europa.eu/europe2020/europe-2020-in-a-nutshell/flagship-initiatives/index\\_en.htm](http://ec.europa.eu/europe2020/europe-2020-in-a-nutshell/flagship-initiatives/index_en.htm), (accessed on November 2015).

The EU built a strategic approach to innovation, the Innovation Union, taking it as an overarching policy objective driving all other policies (education, labour markets, skills, ICT/infrastructure, tax policy, etc.). In order to do so, it was settled to be steered and monitored at the highest level.<sup>9</sup>

The Innovation Union aims to tackle five main issues: strengthening Europe's knowledge base, getting good ideas to market, maximizing regional and social benefits, pooling efforts for breakthroughs and collaborating internationally. The implementation is made through thirty action points, introducing the use of public procurement to finance innovation and the European knowledge market for patents and licensing. It also reinforces existing initiatives as the Risk Sharing Facility and the innovation scoreboards, that aim at measuring and monitoring the success of the implementations of the Innovation Union.

The European Commission promotes innovation through Directorate-General GROWTH that sets up several instruments:<sup>10</sup>

<sup>9</sup> Presentation of the European Commission “Background information on innovation, Priorities for Europe: Energy and Innovation” at the European Council Meeting, 4 February 2011.

<sup>10</sup> [http://ec.europa.eu/growth/industry/innovation/index\\_en.htm](http://ec.europa.eu/growth/industry/innovation/index_en.htm) (accessed on December 2015).



- Horizon 2020 supports innovation according to targeted area;
- Public procurement for innovation, design for innovation, demand-side policies for innovation, public sector innovation and social innovation to foster the broad commercialization of innovation;
- Key enabling technologies (such as advanced manufacturing technologies) or workplace innovation promote the modernization of the EU's industrial base and accelerate the market uptake;
- European Innovation Scoreboards, Innobarometers and the Business Innovation Observatory, that monitor innovation performance;
- Access to finance, single market, clusters and standard definition to improve the regulatory conditions for innovation.

Horizon 2020 is the programme of the European Commission for research and innovation (R&I), corresponding to the 8<sup>th</sup> Framework Programme. It gathers in one programme all the EU R&I funding in a coherent framework in order to make participation easier, increase scientific and economic impact and maximize value for money. It includes various preceding programmes: the 7<sup>th</sup> Framework Programme for Research, the Competitiveness and Innovation Framework Programme (CIP) including the part of the Entrepreneurship and Innovation Programme (EIP) linked with innovation, the Information Communication Technologies Policy Support Programme (ICT-PSP), the Intelligent Energy Europe Programme (IEE), and the European Institute of Innovation and Technology (EIT) (EC, 2011).

Taking into consideration the brief history of the European Union Research and Innovation Policy, it is important to notice that the policy mix implemented today is a gathering of several trials and a construction that was built together with the EU (Guzzetti, 1995). It follows from this common efforts of the European Union as a whole, and not merely a sum of national policies that Schuch (1998) mentioned the concept of European System of Innovation (ESI), further explored in the following section.

### 3.2 European System of Innovation

When trying to map EU Innovation Policy, it is first required to clarify the system, its limits and what it entails. In fact, the use of the term European System of Innovation is not unanimous. Several authors have used it (Dutilleul *et al.*, 2010; Hobday *et al.*, 2012; Mastroeni *et al.*, 2013; Katz, 2015; Kokko *et al.*, 2015; Kontolaimou *et al.*, 2016), but Borrás (2004) presents in detail the characteristics and limits of an innovation system and concluded that it remains premature to identify an European Union System of Innovation, even though it is possible to identify clear processes of system-formation.

On one hand, the EU offers the institutional set-up required for the system of innovation to flourish: knowledge production and diffusion (universities, infrastructures and regulations for networks of technology transfer); financial markets (e.g. as banking regulations and venture capital market); network promotion (e.g. technology and science infrastructures, networks of researchers and dissemination platforms); and entrepreneurship promotion (e.g. infrastructure and business support to entrepreneurs).

On the other hand, it is not possible to prove that these formal institutions transform the existing informal infrastructures such as common practices, dynamics of tacit knowledge generation, routines, traditions, social recognition, among others. This fact is further confirmed by the reconnaissance that informal national institutions of Member States are not adapting to the EU level institutions, neither become similar to each other (Edquist *et al.*, 1998 and Amable *et al.*, 1997 *cfr.* Borrás, 2004).

Moreover, Borrás (2004) considers the EU system of innovation in a three-fold conceptual analysis using the Greek concept: *ethos*, *telos* and *geos*. *Ethos* encloses the characteristics of identity within a given society (i.e. beliefs, attitudes and social interactions). It recognizes the existence of a common EU concern towards risk and the role of science and also a common mode of capitalist regulation, concluding on the existence of a dimension for the EU system formation. *Telos* adds a dimension of purpose towards end-objective and completion of the system. When considering the case of European Union, it is visible a great diversity in the distribution of tasks between the Member States and the EU, lacking an 'end station'. Last but not least, *Geo* defines the geographical limits of the system. In fact, the area of action of EU Innovation Policy is

not clear, as one can see from the dispersion of participating countries in the framework programme for R&D.

We will consider an European System of Innovation within the institutional set-up abovementioned, considering that it delivers the Borrás and Edquist (2013) components of innovation mentioned in section 2.1, and the pursue for coordination that characterizes a system of innovation as pointed out in section 2.2.4. To the best of our knowledge, this mapping was not yet proposed.

Furthermore, the concept of European System of Innovation is addressed in “A Rationale for Action”, the accompanying document to the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Europe 2020 Flagship Initiative - Innovation Union (European Commission, 2010a).

### **3.3 European Policy Instruments**

The Multiannual Financial Framework (MMF) sets a framework for financial programming and budgetary discipline for the period 2014-2020. It sets policy headings and defines the maximum expenditure for each.

The MMF is divided into six categories of expense:

- 1- Smart and Inclusive Growth
  - a. Competitiveness for growth and jobs
  - b. Economic, social and territorial cohesion
- 2- Sustainable Growth
- 3- Security and citizenship
- 4- Global Europe
- 5- Administration
- 6- Compensations

The analysis in this research will be focused on the first three headings, Smart and Inclusive Growth, Sustainable Growth and Security and Citizenship. The latter two headings, ‘Administration’ focuses on the administrative expenditure of all the European

institutions, pensions and European schools, and ‘Compensation’ refers to temporary payments to Croatia, ensuring that it does not contribute more to the EU budget than it benefits from it in the first year following its entrance.

EU policies are implemented through a wide range of programmes and funds that are listed in Table A.3. in the annexes.<sup>11</sup> The present study will undertake a deep analysis on the programmes, in an attempt to map Innovation Policy across policy actions.

Firstly, it is necessary to take note on the functioning of the programmes established on the financial rules applicable to the general budget of the Union. We briefly clarify the different management procedures adopted, the entities entrusted to do so and the typologies of instruments covered.

A programme’s budget may undergo ‘direct management’ if it is managed directly by the EC in the Union Delegations or through executive agencies. The budget may be implemented under shared management with the Member States or through ‘indirect management’, when the budget implementation is entrusted to third parties, international organisations and their agencies, the EIB and the European Investment Fund, public bodies, among others (Regulation (EU and EURATOM) No 966/2012).

The existence of executive agencies that often are entrusted with the task to implement more than one programme, or parts of different programmes, reflects positive coordination (Peters, 2005) recognising the benefits of a coordinated action.

The typology of instruments under analysis is confined to economic and financial instruments (Borrás & Edquist, 2013), more specifically, direct subsidies, public procurement and market-based incentives. Tax incentives are out of scope of the present analysis given that the design and implementation of tax incentives falls under the responsibility of Member States, turning the European fiscal landscape fragmented (European Commission, 2006).

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<sup>11</sup> [http://ec.europa.eu/budget/mff/programmes/index\\_en.cfm#competitiveness](http://ec.europa.eu/budget/mff/programmes/index_en.cfm#competitiveness) (accessed on April 2016).

## **Chapter 4 - Mapping Innovation Policy**

### **4.1 Methodology – mapping tool**

In the present study, in order to map economic and financial instruments within the European Innovation Policy, a framework and a protocol are proposed. The framework aims to detect where Innovation Policy is located within a complex system of innovation. Only by recognising what Innovation Policy encompasses it is possible to develop further studies to evaluate it. To accomplish this goal, each instrument is analysed in order to understand if it influences innovation. The first step to achieve the above purpose is to consider a clear concept of innovation. In the present study we adopt the OECD definition for fully embracing the impact of innovation on the market. Following from this definition, Innovation Policy is taken in all its extent. For the case being, Innovation Policy encompasses all policies that influence, directly or indirectly, the systems of innovation (Fagerberg, 2014). Furthermore, and adding to the work of Borrás and Edquist (2013), it becomes clear the need to recognise the existence of different typologies of policy instruments, that are analysed according to their specificities. Particularly, the methodology herewith proposed meets the characteristics of economic and financial incentives to innovation.

Considering the definitions above mentioned, Innovation Policy is broadly divided in two policy domains: “dedicated Science, Technology and Innovation (STI)” policies” and “Framework Conditions for Innovation Policy” (OECD, 2010, p. 257). The later relates to aspects of broader economic governance, indirectly enabling and promoting innovation throughout the economy. The former, STI dedicated policies, address a specific market or systemic failure by fostering innovation. These policies promote investments in STI activities, innovation competences in firms and linkages within the systems of innovation (OECD, 2010). According to Veugelers (2015), investment in STI can be divided, on one hand, into direct support for public or private R&D and on the other hand on the provision of public R&D infrastructures.

Therefore, and following the nomenclature used by Veugelers (2015, p. 5), four policy domains will be taken into consideration and, further used as criteria to define if a certain instrument inducts innovation or not:

- i. Direct support for public R&D and provision of public R&D infrastructure;
- ii. Support for private R&D and innovation capacity building in the corporate sector;
- iii. Strengthening the linkages between the various participants within the systems of innovation, especially between public R&D and the private sector;
- iv. Enhancing the framework conditions for innovation.

The methodology herewith proposed, follows Magro and Wilson (2013), who formulated a framework to evaluate in a thorough way a complex policy system. These authors gather, objectively, in one framework the main characteristics of a complex system of innovation, highlighting the aspects that are relevant in its implementation and study. Firstly, they suggest to map the policy system for a given policy space considering two dimensions: the policy mix dimension (policy rationales, domains and instruments) and multi-level dimensions (that refers to administrative levels). The dimensions considered in the present study follow the example of Magro and Wilson (2013) and are presented in Table 4. It is very important to decide which dimensions, from the ones listed in Table 4, a given study will analyse. The choice should be made according to the viewpoint one wants to adapt and the future use of the study.

**Table 4 - Dimensions of the Innovation Policy system**

<b>Policy Space Dimension</b>	<b>Multi-level Dimension</b>	<b>Policy-Mix Dimension</b>
Supra-national	Supranational level	Mix of rationales
National	National level	Mix of domains
Regional	Regional level	Mix of instruments
	Local level	

Source: Magro and Wilson (2013).

The policy space is the geographical area under analysis where different policies are implemented. As an example, Magro and Wilson (2013) focus their study on the regional policy space, taking into analysis the policies from different administrative dimensions implemented in that region.

The multi-level dimension refers to the administrative level where the policies are formulated. In the case of Magro and Wilson (2013), they included all the policies into action in one region, regardless of the administrative level.

The policy mix dimension includes the mix of rationales, domains and instruments. The mix of rationales should be taken into consideration when mapping for academic purposes, allowing to match the reasoning behind each instrument, its domains and field of action. Such analysis would be three-dimensional and it is out of the scope of the present study. Regarding the mix of domains, it is important to notice that Innovation Policy is not exclusive to innovation-related objectives, involving a wider range of policy domains. Borrás (2009) has defined the widening of Innovation Policy as the expansion of the realm of action of its instruments. In fact, the understanding over the innovation process moved from a strict science and technology process towards learning in a broader sense. The definition of domain refers to the inductor path that leads to an increase in the innovative performance. Finally, one has to consider the mix of instruments. For the case being and making use of the nomenclature of Borrás and Edquist (2013), the instruments under analysis will be direct subsidies under the format of programmes. Public procurement and market-based incentives are analysed only when implemented through a programme managed by the EC.

To sum up, the mapping is based on policy instruments that are allocated to each domain and/or rationale, is defined in a certain administrative level and applied to a certain policy space. In order to implement the mapping tool mentioned above, a protocol was developed and is presented in Table 5.

The six-step mapping-tool protocol aims to guide through the procedures required to tackle instruments of economic incentive and conclude on their influence on innovative performance. First things first, in order to start following the steps presented below it is required to have a good overview of the concepts of innovation on one hand, but also of the geographical and sectorial coverage of it. As such, step 1 requires the ability to identify the system of innovation (in its strengths and weaknesses), and the identification/selection of the programmes under analysis. The need to clearly set the boundaries of the study are visible in step 1, relatively to the policy, and in step 2, relatively to the aspects the mapping intends to emphasises. In step 2, it is important to keep in mind the goals of the study undertaken and select the relevant aspects to take under analysis. In step 3, it is advised to use the same fields of action as the policy-makers of the related policy use, if those are considered to cover a wide extent of action. In order to follow steps 4, 5 and 6, it is necessary to deeply analyse the official documents that

establish the programmes, their instruments, characteristics and coordination procedures. Furthermore, the full-length implementation work programmes include all the actions that, in a beneficiary perspective, may influence innovation.

**Table 5 - Mapping protocol**

Step 1	Define the policy under analysis and identify its policy programmes
Step 2	Define the policy space dimension, multi-level dimension and policy mix dimension
Step 3	Identify the policy fields of action
Step 4	Choose one policy programme, analyse it and define its division into policy instruments
Step 5	Choose one policy instrument, identify if it contributes towards innovation through the policy domain mix and corresponding field of action
Step 6	Repeat steps 4 and 5 for every instruments of every programme

## 4.2 Mapping European Innovation Policy

The designed methodology presented in section 4.1 is a protocol to identify and map Innovation Policy. This chapter is dedicated to the application of the abovementioned protocol to the European Union setting.

### **Step 1 - Define the policy under analysis and identify its policy programmes**

Following from Borrás (2004), the European Union has in its structure, a group of institutions that determines and implements the activities of the system of innovation, presented as the components of innovation by Borrás and Edquist (2013) in section 2.1. The study will focus on economic and financial instruments used within the European policy framework that promote innovation.

European policy is gathered in a multiannual financial framework (MFF) that sets financial and budgetary discipline for the period 2014-2020, as explained in section 3.2. From the policies within MFF, the programmes under direct or shared management were selected (for being implemented at the administrative level of the European Union) and the regulations establishing each programme were analysed. For the case being, the programmes under study are listed in Table 6, with the corresponding applied legislation.



More detail is presented in Table A.2. in appendix A, where all the legislation linked with MFF is presented and the programmes analysed are highlighted.

**Table 6 - Programmes and corresponding implementing acts**

	CEF	REGULATION (EU) No 1316/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 establishing the Connecting Europe Facility, amending Regulation (EU) No 913/2010 and repealing Regulations (EC) No 680/2007 and (EC) No 67/2010
	Copernicus	REGULATION (EU) No 377/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 3 April 2014 establishing the Copernicus Programme and repealing Regulation (EU) No 911/2010
	COSME	REGULATION (EU) No 1287/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 establishing a Programme for the Competitiveness of Enterprises and small and medium-sized enterprises (COSME) (2014 - 2020) and repealing Decision No 1639/2006/EC
Customs, Taxation and Fight against Fraud	Customs 2020	REGULATION (EU) No 1294/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 establishing an action programme for customs in the European Union for the period 2014-2020 (Customs 2020) and repealing Decision No 624/2007/EC
	Fiscalis 2020	REGULATION (EU) No 1286/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 establishing an action programme to improve the operation of taxation systems in the European Union for the period 2014-2020 (Fiscalis 2020) and repealing Decision No 1482/2007/EC
	Pericles	REGULATION (EU) No 331/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 March 2014 establishing an exchange, assistance and training programme for the protection of the euro against counterfeiting (the 'Pericles 2020' programme) and repealing Council Decisions 2001/923/EC, 2001/924/EC, 2006/75/EC, 2006/76/EC, 2006/849/EC and 2006/850/EC
	Hercule III	REGULATION (EU) No 250/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 establishing a programme to promote activities in the field of the protection of the financial interests of the European Union (Hercule III programme) and repealing Decision No 804/2004/EC
	Employment and Social Innovation Programme - EaSI	REGULATION (EU) No 1296/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 on a European Union Programme for Employment and Social Innovation ("EaSI") and amending Decision No 283/2010/EU establishing a European Progress Microfinance Facility for employment and social inclusion
	Erasmus +	REGULATION (EU) No 1288/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 establishing 'Erasmus+': the Union programme for education, training, youth and sport and repealing Decisions No 1719/2006/EC, No 1720/2006/EC and No 1298/2008/EC
	Galileo and Egnos	REGULATION (EU) No 1285/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 on the implementation and exploitation of European satellite navigation systems and repealing Council Regulation (EC) No 876/2002 and Regulation (EC) No 683/2008 of the European Parliament and of the Council
	Horizon 2020	REGULATION (EU) No 1291/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 establishing Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020) and repealing Decision No 1982/2006/EC
	LIFE programme	REGULATION (EU) No 1293/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 on the establishment of a Programme for the Environment and Climate Action (LIFE) and repealing Regulation (EC) No 614/2007

Civil Protection Mechanism	Decision No 1313/2013/EU on a Union Civil Protection Mechanism
Consumer Programme	Regulation (EU) No 254/2014 of the European Parliament and of the Council on a multiannual consumer programme for the years 2014-20+D45:E46
Creative Europe	Regulation (EU) No 1295/2013 establishing the Creative Europe Programme
Europe for Citizens	Council regulation (EU) No 390/2014 establishing the ‘Europe for Citizens’ programme for the period 2014-2020
Health	Regulation (EU) No 282/2014 on the establishment of a third Programme for the Union's action in the field of health (2014-2020)
Justice Programme	Regulation (EU) No 1382/2013 establishing a Justice Programme for the period 2014 to 2020
Rights, Equality and Citizenship	Regulation (EU) No 1381/2013 establishing a Rights, Equality and Citizenship Programme for the period 2014 to 2020

## **Step 2 - Define the policy space dimension, multi-level dimension and policy mix dimension**

The aim of the present study is to focus on one administrative level, the European. On the contrary, Magro and Wilson (2013), focus their study on one regional policy space. Plus, the policy space under analysis is also the European. The intent is not to analyse all the policies that affect the space but only the ones that are centrally made (that is why only the programmes under direct and shared management are selected).

Even though the detailed analysis of the rationales behind each instrument is out of scope of the present study, it is considered relevant, being suggested as a follow-up study to the present analysis.

## **Step 3 - Identify the policy fields of action**

European policy can be divided into several fields of action. The fields of action used are given by the EC and described in Table A.1.<sup>12</sup> in appendix A.

Considering the dimensions under analysis, the method herewith proposed fits into a simple two entries Table: the policy fields of action and policy domains.

## **Step 4 - Choose one policy programme, analyse it and define its division into policy instruments**

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<sup>12</sup> Source: [http://ec.europa.eu/policies/index\\_en.htm](http://ec.europa.eu/policies/index_en.htm) (accessed on May, 2015)

Each European programme defined in step 1 is the aggregation of several policy instruments as established in the corresponding regulations.<sup>13</sup> In fact, the division into instruments changes according to the content and structure of the programme.

For instance, in Horizon 2020 the instruments differ on the beneficiaries and on the rate of co-funding; another example relates to the important role of Non-Governmental Organizations (NGOs) in protecting the environment and tackling climate change, and therefore the instruments within LIFE programme are generally divided into actions supporting the functioning of NGO and actions open to other entities.

The extended outcomes per programme in annex are composed of two main Tables: the main Table is the result of step 5 explained in detail below and the support Table that presents the division of each programme into its instruments. In support Tables, detail is given regarding each instrument on a brief summary of the content and also on the beneficiaries' eligibility. These are the aspects considered relevant to discern on the criteria appointed by the policy domains.

#### **Step 5 - Choose one policy instrument, identify if it contributes towards innovation through the policy domain mix and corresponding field of action**

The work programmes listed in Table A.3. include all the actions implemented within each instrument. The analysis followed a simple procedure: to assess whether the actions within a given instrument promote innovation. In the case of being positive, the instrument name was pinned to the corresponding field of action and domain. The procedure described allowed the construction of the main tables that constitute the outcomes per programme in annex and necessarily follow from the construction of the support tables mentioned in step 4. Often, the actions that fall under the same instrument promote innovation in the same domain and field of action, reflecting concentrated efforts of the policy-making process. The number of actions and their implementation methods vary according to a wide spectrum but its understanding is required in order to allocate the instrument to each policy domain.

#### **Step 6 - Repeat steps 4 and 5 for every instruments of every programmes**

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<sup>13</sup> All the regulations that established the programmes highlighted in table A.2. were taken into consideration.

All the regulations establishing the programmes mentioned in Step 1 were analysed and the type of instruments were deployed according to the related policy field and the programme structure. Subsequently, each work programme was analysed in order to allocate its instruments to the corresponding domain and field of action.

This way, all instruments were fully integrated into the policy map herewith proposed.

### **4.3Results**

The methodology above presented, with core concepts based on the work of other authors, mainly Magro *et al.* (2014) and Veugelers (2015), aims to provide a first step for future evaluations of innovation policy (a detailed presentation of the application of the methodology in appendix B). Moreover, the implementation of this method is bestowed when an *ex-post* look to its implementation is undertaken. In fact, the implementation allows a learning process about the characteristics of the instruments that are qualified as innovation inductors. Herewith we present Table 7 with a summary of the results, and Table 8 as a visual overview of how the different programmes promote innovation.

**Table 7 - Summary of Output Tables**

Programme	Sector of activity of the programme	Field of action	Domain of action				Function within the SI (determinants of innovation)	Presents complementarities with Horizon 2020
			(1)	(2)	(3)	(4)		
<b>CEF Connecting Europe Facility</b>	- Transports, Telecommunications, Energy	Energy and Natural Resources; Environment and consumers and health; Regions and Local development; Science and Technology; Transport and Travel	YES	YES	YES	YES	Provision of knowledge; Demand-side activities; Building the framework	YES
<b>Copernicus</b>	European Earth Monitoring	Climate Action; Energy and Natural Resources; Environment, Consumers and Health; Science and Technology	YES	YES	YES	YES	Provision of knowledge; Demand-side activities; Building the framework	YES
<b>COSME</b>	Competitiveness of Union Enterprises, particularly SMEs	Business; Cross-cutting policies; Employment and social rights; Energy and Natural Resources; Environment, consumers and health; External relations and foreign affairs; Regions and local development; EU explained	NO	YES	YES	YES	Demand-side activities; Building the framework; Create the conditions for the innovative process	YES
<b>Customs 2020</b>	Support the functioning of the Customs Union	Economy, finance and tax	NO	YES	NO	YES	Building the framework	NO
<b>Fiscalis 2020</b>	Support the functioning of the taxation systems	Economy, finance and tax	NO	YES	NO	YES	Building the framework	NO
<b>Pericles</b>	The instruments within this programme are not considered innovation policy instruments, given the premises of the present study.							
<b>Hercule III</b>	The instruments within this programme are not considered innovation policy instruments, given the premises of the present study.							

<b>EaSI - Employment and Social Innovation Programme</b>	Employment and Social Innovation	Business; Culture, education and youth; Economy, finance and tax; Employment and social rights; Regions and local development	YES	YES	NO	YES	Provision of knowledge; Building the framework; Create the conditions for the innovative process	NO
<b>Erasmus +</b>	Education, training, youth and sport	Agriculture, fisheries and foods; Business; Climate Action; Cross-cutting Policies; Culture, education and youth; Economy, finance and tax; Employment and social rights; Energy and natural resources; Environment consumers and health; External relations and foreign affairs; Justice, home affairs and citizen's rights; Regions and local development; Science and technology; EU explained; Transport and travel	YES	YES	YES	YES	Provision of knowledge; Building the framework	YES
<b>Galileo and Egnos</b>	Satellite Navigation Systems, global satellite navigation and positioning infrastructure	Science and Technology	NO	YES	NO	NO	Provision of knowledge; Building the framework	YES
<b>Horizon 2020</b>	Research and Innovation	Agriculture, fisheries and foods; Business; Climate Action; Cross-cutting Policies; Culture, education and youth; Economy, finance and tax; Employment and social rights; Energy and natural resources; Environment consumers and health; External relations and foreign affairs; Justice, home affairs and citizen's rights; Regions and local development; Science and technology; EU explained; Transport and travel	YES	YES	YES	YES	Provision of knowledge; Building the framework; Create the conditions for the innovative process	

<b>LIFE programme</b>	Environment and Climate Action	Climate Action; Cross-cutting Policies; Culture, education and youth; Energy and natural resources; Environment consumers and health; Regions and local development; Science and technology;	YES	YES	YES	YES	Building the framework; Create the conditions for the innovative process;	YES
<b>Civil Protection Mechanism</b>	Protection of people, the environment and property.	Science and Technology;	NO	NO	YES	NO	Building the framework	NO
<b>Consumer Programme</b>	The instruments within this programme are not considered innovation policy instruments, given the premises of the present study.							
<b>Creative Europe</b>	Culture and Creative sector	Culture, Education and Youth;	NO	NO	NO	YES	Building the framework	NO
<b>Europe for Citizens</b>	The instruments within this programme are not considered innovation policy instruments, given the premises of the present study.							
<b>Health</b>	Health sector	Environment, consumers and health;	YES	NO	YES	NO	Building the framework	YES
<b>Justice Programme</b>	Law and justice	Employment and social rights; Justice, home affairs and citizen's rights;	NO	NO	NO	YES	Provision of knowledge; Building the framework;	YES
<b>Rights, Equality and Citizenship</b>	Human rights	EU explained	NO	NO	NO	YES	Provision of knowledge; Building the framework;	NO

- (1) Direct support for public R&D and provision of public R&D infrastructure
- (2) Support for private R&D and innovation capacity building in the corporate sector
- (3) Strengthening the linkages between the various participants within the innovation system, especially between public R&D and the private sector
- (4) Enhancing the framework conditions for innovation

Regarding Table 7 and within all the nineteen programmes analysed, only four were considered not to promote innovation. The other fifteen programmes are designed such that they promote framework conditions for innovation. We consider here that all the instruments that promote innovation should be considered Innovation Policy. In fact, one cannot state that every instrument of Innovation Policy will certainly lead to an innovative project/action.

First of all, it is relevant to mention that Horizon 2020 instruments contribute, through all four policy domains to innovative performance, across all fields of action. As a matter of fact, even though Innovation Policy instruments are spread among different policy fields, there is generally, a set of instruments built with the intent to solve problems of low innovation intensity. To the best of our knowledge, Veugelers (2015) is the only author to name these instruments as “Mainstream Innovation Policy Instruments”, a concept we shall adopt in the present work.<sup>14</sup> The observation of Table A.3. regarding Horizon 2020 instruments matches the fact to be considered European Union mainstream Innovation Policy instruments:

*“As a Europe 2020 flagship initiative aimed at securing Europe’s global competitiveness, Horizon 2020 is the financial instrument which provides for the implementation of the Innovation Union.”<sup>15</sup>*

Notwithstanding, non-mainstream innovation policy instruments are also considered to promote innovation. Herewith we try to point the paths through which they work.

Creative Europe and Civil Protection programmes promote innovation through instruments that are open to IT firms whose development in technology are possibly associated with research entities and public authorities. The links created between industry, research entities and the push of the public sector towards market

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<sup>14</sup> A suggestion for future studies departs from this level of analysis to the comparison with other mainstream Innovation Policy instruments, assessing whether they are spread across the policy fields of action, and relating that mapping with the performance of the innovation system.

<sup>15</sup> Source: [www.europarl.europa.eu/atyourservice/en/displayFtu.html?ftuId=FTU\\_5.9.7.html](http://www.europarl.europa.eu/atyourservice/en/displayFtu.html?ftuId=FTU_5.9.7.html) (accessed on March, 2016).



creation/implementation are considered to promote a good environment for innovation emergence.

A different example lays in the programmes for Justice and Rights, Equality and Citizenship that support analytical activities that may reach the market. The production of knowledge disseminated through firms constitutes the first step to product/service/organisational innovation.

CEF programme has its focus on promoting trans-European networks, mainly through infrastructure and ICT. Its instruments, “Studies” and “Works” complement each other in the sense that often the former is implemented through the later. Any entity from the system of innovation can apply, and there is a chance that those entities will apply in consortium. In fact, the consortiums that usually apply to CEF projects are composed by firms and research entities, setting the conditions for innovation emergence.

Copernicus is the European Earth monitoring programme that provides information and forecasting on a wide set of geo-referenced parameters (Copernicus Services) and ensures sustainable spaceborne observations (Copernicus Space Component). The subject under study leads to the involvement of entities that work at the forefront of knowledge, namely IT firms and research entities. The situation is similar in the programme Galileo and Egnos, that aims to provide the Union with two satellite navigation systems. Both programmes support private R&D encouraging firms to invest in knowledge production. Additionally, Copernicus programme is also implemented through public R&D; its Service Component aims to collect data thus influencing the framework conditions for knowledge provision; and its implementation requirement in consortium strengthens the links between system of innovation.

Life programme was designed in order to assess environmental protection and climate action. These two strands are implemented by increasing the capacity of public and private sectors. Life programme is designed to spread environmental and climate policy into other European policies as R&D and industrial policy. The mix of both fields of action constitutes the basis for innovation emergence.

The programme for employment and social inclusion, EaSI, promotes innovation in three ways. Firstly, by financing activities to collect data and undertake related analysis. Secondly, by enhancing SMEs capacity to innovate, easing financial access and thirdly, by financing research in the field of employment and social rights.

Cosme programme mainly acts in the field of business, specially SMEs. By promoting a deeper analysis into market functioning, removing barriers or making it more competitive, it is enhancing framework conditions towards innovation emergence.

Within Erasmus +, the most relevant instrument is Cooperation for Innovation and the Exchange of Good Practices (CIEGP) that includes knowledge alliances and sector skills alliances. This instrument gathers industry and education entities with the aim to produce education curricula closer to the market, strengthening the links created.

Customs and Fiscalis are implemented through the same work programme and promote ICT development through private R&D, and enhances framework conditions through dissemination and analysis activities.

Regarding the programmes that are considered not to promote innovation, these can be seen as counterfactual instruments, adding to the clarification of the concepts. According to Table 7, the Consumer and Europe for Citizens programmes do not fall within Innovation Policy. These programmes do not contribute to corporate activities and, what is more, generally produce information that is not of direct use to market players. The actions of Consumer programme are directed focused on law enforcement, organisation of international events or informing consumers, that are not considered innovation promoters according to the innovation domains used. The actions within Europe for Citizens focus on European remembrance, democratic engagement and civic participation.

Hercule III and Pericles are programmes that concern the fight against fraud and safeguarding the euro against counterfeiting, respectively. Both programmes are designed with activities that only encompass public entities, even though they might promote research activities, their outcomes are not expected to reach the market. If they do so, it is out of scope of the programmes. Therefore, they are not considered Innovation Policy.

Following the argument of Fagerberg (2014) and the outcome in Table 8, it becomes clear that, in the EU, Innovation Policy is a mix of instruments spread across different policy fields. It is possible to find instruments from several EU programmes, across all fields of action, that promote, through different ways, the advent of innovative actions.

Table 8 - Mapping European Innovation Policy

Fields of action	Mix of domains			
	Direct support for public R&D and provision of public R&D infrastructure	Support for private R&D and innovation capacity building in the corporate sector	Strengthening the linkages between the various participants within the system of innovation, especially between public R&D and the private sector	Enhancing the framework conditions for innovation
	Agriculture, fisheries and foods	HORIZON 2020 ERASMUS+	HORIZON 2020	HORIZON 2020 ERASMUS+
	Business	HORIZON 2020 ERASMUS+ HERCULE III	HORIZON 2020 ERASMUS+ COSME EaSI	HORIZON 2020 COSME HERCULE III
	Climate action	HORIZON 2020 ERASMUS+ COPERNICUS LIFE	HORIZON 2020 COPERNICUS LIFE	HORIZON 2020 COPERNICUS LIFE
	Cross-cutting policies	HORIZON 2020 ERASMUS+	HORIZON 2020	HORIZON 2020 ERASMUS+ COSME LIFE
	Culture, education and youth	HORIZON 2020 ERASMUS+	HORIZON 2020 ERASMUS+	HORIZON 2020 ERASMUS+ EaSI
	Economy, finance and tax	HORIZON 2020 ERASMUS+	HORIZON 2020 CUSTOMS FISCALIS	HORIZON 2020 CUSTOMS FISCALIS EaSI
	Employment and social rights	HORIZON 2020 ERASMUS+ EaSI	HORIZON 2020	HORIZON 2020 ERASMUS+ EUROPE FOR CTIZENS JUSTICE
	Energy and natural resources	HORIZON 2020 ERASMUS+ CEF COPERNICUS LIFE	HORIZON 2020 COPERNICUS LIFE	HORIZON 2020 ERASMUS+ CEF LIFE
	Environment, consumers and health	HORIZON 2020 ERASMUS+ CEF COPERNICUS LIFE Health 3rd	HORIZON 2020 CEF COPERNICUS LIFE	HORIZON 2020 ERASMUS+ CEF LIFE Health 3rd
	External relations and foreign affairs	HORIZON 2020 ERASMUS+	HORIZON 2020	HORIZON 2020 ERASMUS+ COSME

<b>Justice, home affairs and citizen's rights</b>	HORIZON 2020 ERASMUS+	HORIZON 2020	HORIZON 2020 ERASMUS+	HORIZON 2020 JUSTICE
<b>Regions and local development</b>	HORIZON 2020 ERASMUS+	HORIZON 2020	HORIZON 2020 ERASMUS+ CEF LIFE EUROPE FOR CITIZENS	HORIZON 2020 COSME LIFE CREATIVE
<b>Science and technology</b>	HORIZON 2020 ERASMUS+ COPERNICUS	HORIZON 2020 ERASMUS+ COPERNICUS COSME	HORIZON 2020 ERASMUS+ CEF LIFE CIVIL PROTECTION	HORIZON 2020 ERASMUS+ COSME CEF
<b>EU explained</b>	HORIZON 2020 ERASMUS+ CEF	HORIZON 2020	HORIZON 2020 ERASMUS+ COSME EUROPE FOR CITIZENS	HORIZON 2020 ERASMUS+ RIGHTS, EQUALITY AND CITIZENSHIP EUROPE FOR CITIZENS
<b>Transport and travel</b>	HORIZON 2020 ERASMUS+ CEF	HORIZON 2020	HORIZON 2020 ERASMUS+ CEF	HORIZON 2020 CEF

The outcome in Table 8 roughly leads to the understanding that Innovation Policy is promoted by almost every programme in the various domains. It is our aim to further analyse it, in order to identify how Innovation Policy is spread in the EU policy framework and withdraw conclusions on the EU Innovation Policy. In fact, by recognising these instruments as Innovation Policy, they should be taken into consideration when evaluating Innovation Policy.

Notwithstanding, excluding Horizon 2020, it is not possible to say that there is Innovation Policy instruments in all fields of action through all policy domains. One can observe that the policy instruments that were designed to tackle other issues can, through the way they are built and implemented, induct innovative actions. These instruments are spread across the policy fields according to themes and, therefore, do not assure to promote innovation throughout the economy.

### **Complementarities**

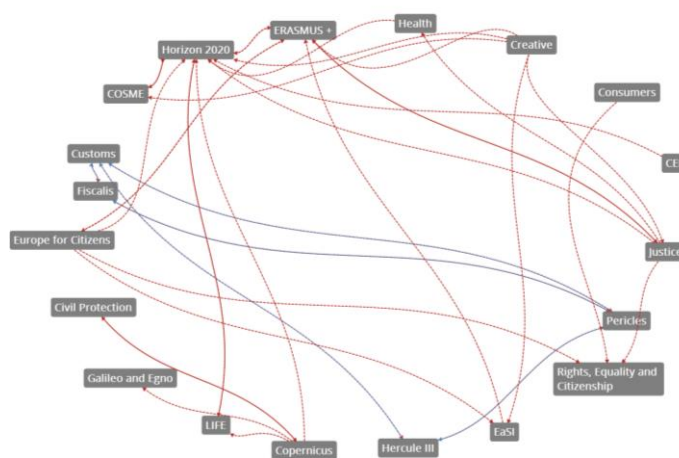
Applying the wider view over the system of innovation as presented in section 2.2.4, it turns mandatory to acknowledge the links within. Getting to grips with the

programmes and the implementing regulations,<sup>16</sup> the efforts to make them complementary should be highlighted. Adding this perspective to the cooperation methods mentioned in section 2.2.3, we propose regarding complementarities within programmes as a cooperation procedure, such as positive cooperation or even policy cooperation (Peters, 2005).

Several complementarities can be found among the programmes. Complementarities are considered when a programme is designed in order to complement another. In other words, its actions are created and implemented in a way not to substitute or overlap the actions of the former. There is, in the EU policy-making, a clear effort to reach high coordination (Brickman, 1979), visible in the attempt of each DG to match in a positive way (Peters, 2005) and on a voluntary basis, the priorities of other DGs in a process named external coordination (Braun, 2008).

Commonly, the activities with bigger focus on R&D are transferred from other thematic programmes to Horizon 2020. Each Regulation settles the complementarities of the programme with other sources of funding, namely other programmes. Figure 2 links each programme directly to the ones settled to have complementarities with (represented by the dotted line and the arrow at the end that departs from the programme that was designed to complement the following). The dotted blue lines mark a group of four programmes that are only connected with each other, as explained below in this section.

**Figure 2 - Complementarities between programmes**



<sup>16</sup> All the regulations that established the programmes highlighted in Table A.2. were taken into consideration.

A good example of complementarity is the case of Life and Copernicus programmes that complement Horizon 2020. On one hand, the Climate Change Service financed under Copernicus shall benefit from sustained research and innovation activities mainly carried out in Horizon 2020. On the other hand, while research projects are mainly funded under Horizon 2020, LIFE projects address risk assessments, cost-benefit and regional analysis, framework settings, development of tools to support decision making and monitoring and evaluation procedures. Life and Copernicus' instruments were designed in order to complement the work programme of Horizon 2020, mainly, in its societal challenge "Climate actions, environment, resource efficiency and raw materials", encouraging the participation without substituting it or overlapping.

Furthermore, it is possible to see, in Figure 2, that Horizon 2020 was designed in a way to complement other programmes, namely: COSME, LIFE and ERASMUS +. On the other hand, a bigger amount of programmes was designed with the aim to complement Horizon 2020 instruments: COSME, Life, Copernicus, Justice, CEF, Europe for Citizens, Creative, Erasmus + and Health.

Contrarily, the programmes related to the customs union (Customs, Fiscalis, Hercule III and Pericles) are interconnected with each other but not with Horizon 2020. In fact, these programmes are considered to promote innovation streamlining market access (outside Europe markets), through studies and by promoting ICT development towards customs applications. Their linkages are represented in blue dotted lines.

### **Features of innovation instruments**

Withdrawing further conclusions from Tables 7 and 8, it is recognisable that other programmes, not dedicated STI policies, may influence innovation processes. We have come to this conclusion by the analysis on a case by case format of all instruments.

Within each instrument, two aspects were considered relevant to meet Innovation Policy requirements: the eligibility of beneficiaries and the types of actions.

The eligibility of beneficiaries of any given instrument can be designed in such way to promote linkages between participants of the system of innovation, therefore being considered an Innovation Policy instrument. Being the case that an instrument requires consortium applications from entities within the system of innovation, it is on the right

path to strengthen the linkages between those participants, therefore promoting innovation, as in the example given below.

The Civil Protection Programme by its “Prevention” instrument, enlarges the knowledge base on disaster risks and disaster prevention policies, promoting further technological(product) or methodologic(process) innovations. Projects are to be implemented by a consortium of three entities from three different participating states that can be ruled under private or public law. The beneficiaries can be *inter alia* research institutions, public authorities, universities or firms. As the thematic involves data management, software knowledge and field experience, it will most likely require that the different entities come together to build the strongest application. The linkages between the various participants within the system of innovation are strengthened, paving the way to innovative actions.

Altogether, it is frequent, in the EU policy, that the structure of beneficiaries’ eligibility requires consortium applications and allows the participation of research institutions, the industrial sector and even public entities.

What is more, the typology of actions accepted under each instrument influences whether it promotes innovation or not.

As an example, the instruments that are limited to studies, analysis or data collection can form the basis for future innovative activities, therefore enhancing the framework conditions for innovation. Within the CEF programme, “Studies” was designed to prepare, test and validate what can be the launching of an innovation, particularly involving software applications. On the same line of thought, the programmes Justice, Rights, Equality and Citizenship, and EaSI, foster analytical activities such as benchmarks or the development of common methodologies that shape the broad economic framework conditions that are relevant for innovative performance. Even though these instruments do not increase innovative performance directly, they can promote the development of inventions or even set the knowledge base in order to promote so.

On the same line of thought, but focusing on the opposite situation, “Operating Grants” are instruments of the 3<sup>rd</sup> Health and Life programmes. The purpose of these instruments is to provide financial support to the current functioning of a body involved in the implementation on Union policy and legislation. Taking into consideration that the

application is not in consortium and that preferable beneficiaries are non-profit-making institutions (moving away from market influence), it is not considered to promote innovation.

Additionally, financial instruments were also considered Innovation Policy instruments when supporting R&D or enhancing framework conditions for innovation by streamlining the functioning of markets. The financial instrument under Horizon 2020 aims to stimulate more investment in research and innovation, notably in the private sector. It is complemented by other EU financial instruments, namely within COSME, that has a focus on the creation of favourable business environment and competitiveness. Furthermore, financial instruments within Creative Europe, leverage new actions and opportunities within the cultural sector, and within EaSI through microfinance and social entrepreneurship.

Public Procurement is framed within EU policy programmes in two ways. On one hand it assures the functioning of the programme, roughly through technical assistance actions. In this case, it is not considered as an Innovation Policy instrument. On the other hand, it can be one of the instruments that composes a programme and is necessary to achieve its goals. On that scenario, public procurement can act on the demand side of innovation, creating the market demand for innovative solutions. In the case of the programmes under analysis, only Consumer, the 3<sup>rd</sup> Health programme and Horizon 2020 have public procurement as an implementation instrument. Nevertheless, only Horizon 2020 “Public Procurement for Innovation” or “Pre-Commercial Procurement” are directly targeted to contracting solutions that are not yet available on a large scale commercial basis and, therefore, are considered to promote new market demand and R&D (public or private), enhancing the framework conditions for innovation and even strengthening the linkages within the system of innovation. Public procurement under Consumers and the 3<sup>rd</sup> Health programme envisage to contract current services offered by firms.

All in all, according to the results, any policy instrument can be considered an Innovation Policy instrument if it is designed according to the categories abovementioned. This research encompasses the first step to turn innovation a basis for policy making. It is concluded that in order to comply with the flagship initiative



Innovation Union, Innovation-induction should be underlying direction of policy-making.

## Chapter 5 - Conclusions

In this dissertation, we have proposed to build a methodology to identify innovation instruments across policy fields. We have assessed economic incentives to innovation that are implemented through dedicated STI policies (OECD, 2010) and, what is more, policies whose main objective is other than STI. The proposed methodology contributes to the fulfilment of the identified literature gap in Innovation Policy assessments, that frequently omit non-mainstream innovation instruments. Through the mapping of innovation policy, it is recognised that the instruments that are identified as innovation policy instruments should be taken under evaluation, whether they are mainstream or not.

Moreover, we have applied the methodology proposed to the European Union setting. The application exercise contributes to a deeper understanding of innovation instruments, concerning their common aspects and their inter-relation within the policy-mix.

Furthermore, the main outcome of this dissertation is a map of European programmes according to innovation domains and the consideration that many instruments within EU policy are designed in such a way that promotes innovation.

In addition to these findings, we would like to make some concluding considerations that arise from the contextual analysis and the interpretation of results.

On one hand, it is possible to find concordance between innovation theory and Innovation Policy-making in the EU. A good example lays within the coordination methods explored in detail in the innovation literature (Magro *et al.*, 2014) and the complementarities among programmes managed by different DG in the EC. On the other hand, in the observation that EU Innovation Policy is widely spread among all fields of action and among different programmes, it is recognised the intent of the Treaty of Lisbon towards an Innovation Union, bringing the emergence of innovation, a transversal matter.

It is important to acknowledge the limitations of this study, hoping to be addressed in future research efforts. This study is uniquely focused in studying the economic and financial instruments. In order to provide a more complete mapping of Innovation Policy, the following step in this research should be to investigate other types of instruments, as regulatory or soft instruments.

Further research can also be made as a follow up of the present study from the use of three dimensions within the policy-mix: in the according field of action, linking each instrument to a policy domain and corresponding rationale. This analysis would allow for interesting conclusions in the links between theory and practice.

Another suggestion adds to the work of Hall (2004) on the diffusion of innovations. We propose the study of the diffusion process within the European Union, based on the characterization of the instruments herewith identified and according to their role in the diffusion process, to create a model and propose a method to systematic data collection.

Furthermore, the interest of policy-makers in STI policy promoted an increase of systematic data collection and the study of the impact of such policies. Particularly, the OECD has been collecting R&D data on a regular basis since the 1960s (Wu *et al.*, 2007). In that respect, statistic agencies have developed and improved several innovation indicators *inter alia* R&D measures, patent and scientific publication counts (Hall, 2002a). While recognising the impact of non-mainstream innovation instruments, it is considered interesting to further study not only the impact of Innovation Policy in its broad definition, but also the part of it that is caused by non-mainstream instruments. The follow up of this study would allow the understanding of a need for the allocation of a bigger budget to R&D programme or contrarily, to focus on the format of other instruments to meet the innovation target.

Overall, we consider that this research has contributed to the literature on the Innovation Policy, adding to its general understanding and representing the first step towards more complete Innovation Policy assessments.

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## **APPENDIX A - Presentation of the detailed information for supporting the mapping of EU Innovation Policy**

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**Table A.1. Fields of Policy Action**

<b>Policy</b>	<b>Field of action</b>	<b>Related entities</b>
Agriculture, fisheries and food	Agriculture and Rural Development (Agricultural markets, Common Agricultural Policy, Rural development)	DG for agriculture and rural development (AGRI)
	Fisheries (Aquaculture, Common Fisheries Policy)	DG for Health and Food Safety (SANTE)
	Food safety (Animal diseases, Animal welfare, Food labelling, Food quality, GMOs, Plant health)	DG for maritime affairs and fisheries (MARE)
Business	Enterprise (Entrepreneurship, SME, Industry)	Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs (GROW)
	Internal Market (Competition, Market access, Competitiveness)	Directorate-General for Financial Stability, Financial Services and Capital Markets Union (FISMA)
		DG for Competition (COMM)
		Executive Agency for Small and Medium-sized Enterprises (EASME)
		Research Executive Agency (REA)
Climate Action	Fight Climate change at EU and international level	DG for Climate Action (CLIMA)
Cross-Cutting Policies	Better Regulation – REFIT Programme	DG for Communication (COMM)
	Impact assessment of new initiatives	DG for Informatics (DIGIT)
	Europe 2020	DG for Interpretation (SCIC)
	Multilingualism	DG Translation (DGT)
		Regulatory Scrutiny Board (RSB)
Culture, Education and Youth	Audio-visual Coordination (Media Freedom and Pluralism)	DG for Education and Culture (EAC)
	Culture	Education, Audio-visual and Culture Executive Agency (EACEA)
	Education and Training	
Economy, Finance and Tax	Banking and finance (Banking Union, Better access to finance, Financial reform, Financial services regulation)	DG Economic and Financial Affairs (ECFIN)
	Budget	DG for Budget (BUDG)
	Competition	DG for Taxation and Customs Union (TAXUD)
	Customs	European Anti-Fraud Office
	Economy (Economic policies, Euro)	
	Fight against fraud	
	Labour law	

Employment and Social rights	Gender equality	DG for Employment, Social Affairs and Inclusion (EMPL)
	Social and demographic trends	
	Social dialogue, inclusion and protection – European Social Fund	
Energy and Natural Resources	Definition and supervision of the Energy strategy	DG Energy (ENER)
	Sustainable and responsible business	DG for Mobility and Transport (MOVE)
		Executive Agency for Small and Medium-sized Enterprises (EASME)
		Research Executive Agency (REA)
Environment and social rights	Consumers protection and rights	DG Environment (ENV)
	Environment (air, chemicals, civil protection, nature and biodiversity, soil, waste, water)	DG Health and Food Security (SANTE)
	Health (Drugs, Human diseases, Medicines, Tobacco)	DG Maritime Affairs and Fisheries (MARE)
	Maritime Policy	
	Resource Efficiency	Executive Agency for Competitiveness and Innovation (EACI)
	Sustainable development	Consumers, Health, Agriculture and Food Executive Agency
		Scientific Committees
EU explained	Civil Society issues (Transparency register, Your Voice in Europe)	Secretariat-General of the Commission
	Institutional Issues (Institutions, Treaties)	DG for Communication (COMM)
External relations and foreign affairs	Civilian Crisis Management	DG Development and Cooperation (DEVCO)
	Conflict Prevention	DG for Neighbourhood and Enlargement Negotiations (NEAR)
	Development and Developing countries	DG for Trade (TRADE)
	Enlargement	DG for Humanitarian Aid and civil protection (ECHO)
	European Neighbourhood policy	DG Service for Foreign Policy Instruments (FPI)
	European Union in the World	
	External Cooperation Programmes	High Representative of the Union for Foreign Affairs and Security Policy
	Peacekeeping operations	
	International trade and trade agreements	
Justice, home affairs and citizen's rights	Citizens' rights (Children's' rights, data protection, disability issues, fundamental rights, tackling discrimination)	DG for Migration and Home Affairs (HOME)

	Home affairs (Asylum, borders and border control, fight against crime, fight against terrorism, immigration, police matters, Schengen, visa)	DG for Justice and Consumers (JUST)
	Justice (criminal justice, drug trafficking, judicial cooperation)	
Regions and local development	Accessing the funds – Cohesion Fund, European Regional Development Fund, European Social Fund, the European Union Solidarity Fund	DG for Regional and Urban Policy (REGIO)
	Regional policy	
Science and Technology	Ethics in Science	DG for Internal Market, Industry, Entrepreneurship and SMEs (GROWTH)
	Information society	DG for Communications Networks, Content and Technology (CNECT)
	Audiovisual	DG for Research and Innovation (RTD)
	Media	DG Joint Research Centre (JRC)
	Research	
		Education, Audiovisual and Culture Executive Agency (EACEA)
		European Research Council Executive Agency (ERC)
		Research Executive Agency (REA)
		Scientific Committees
		European Institute of Innovation and Technology
		Research (EURAXESS – Researcher's mobility portal, Horizon 2020, Research in the EU)
Transport and travel	Transport	DG for Internal Market, Industry, Entrepreneurship and SMEs (GROWTH)
		DG for Energy (ENER)
		DG for Mobility and Transport (MOVE)
		Innovation and Networks Executive Agency (INEA)

Table A.2. Multiannual Financial Framework 2014-2020

Smart and Inclusive Growth	Competitiveness for Growth and Jobs	CEF		REGULATION (EU) No 1316/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 <b>establishing the Connecting Europe Facility</b> , amending Regulation (EU) No 913/2010 and repealing Regulations (EC) No 680/2007 and (EC) No 67/2010
		Copernicus		REGULATION (EU) No 377/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 3 April 2014 <b>establishing the Copernicus Programme</b> and repealing Regulation (EU) No 911/2010
		COSME		REGULATION (EU) No 1287/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 <b>establishing a Programme for the Competitiveness of Enterprises and small and medium-sized enterprises (COSME)</b> (2014 - 2020) and repealing Decision No 1639/2006/EC
		Customs, Taxation and Fight against Fraud	Customs 2020	REGULATION (EU) No 1294/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 <b>establishing an action programme for customs in the European Union</b> for the period 2014-2020 (Customs 2020) and repealing Decision No 624/2007/EC
			Fiscalis 2020	REGULATION (EU) No 1286/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 <b>establishing an action programme to improve the operation of taxation systems in the European Union</b> for the period 2014-2020 (Fiscalis 2020) and repealing Decision No 1482/2007/EC
			Pericles	REGULATION (EU) No 331/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 March 2014 <b>establishing an exchange, assistance and training programme for the protection of the euro against counterfeiting (the 'Pericles 2020' programme)</b> and repealing Council Decisions 2001/923/EC, 2001/924/EC, 2006/75/EC, 2006/76/EC, 2006/849/EC and 2006/850/EC
			Hercule III	REGULATION (EU) No 250/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 <b>establishing a programme to promote activities in the field of the protection of the financial interests of the European Union (Hercule III programme)</b> and repealing Decision No 804/2004/EC
		Employment and Social Innovation Programme - EaSI		REGULATION (EU) No 1296/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 <b>on a European Union Programme for Employment and Social Innovation ("EaSI")</b> and amending Decision No 283/2010/EU establishing a European Progress Microfinance Facility for employment and social inclusion
		Erasmus +		REGULATION (EU) No 1288/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 <b>establishing 'Erasmus+': the Union programme for education, training, youth and sport</b> and repealing Decisions No 1719/2006/EC, No 1720/2006/EC and No 1298/2008/EC
		Galileo and Egnos		REGULATION (EU) No 1285/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 <b>on the implementation and exploitation of European satellite navigation systems</b> and repealing Council Regulation (EC) No 876/2002 and Regulation (EC) No 683/2008 of the European Parliament and of the Council
		Horizon 2020		REGULATION (EU) No 1291/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 <b>establishing Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020)</b> and repealing Decision No 1982/2006/EC
		ITER		amending Decision 2007/198/Euratom <b>establishing the European Joint Undertaking for ITER and the Development of Fusion Energy and conferring advantages upon it</b>

Economic, Social and Territorial Cohesion	Nuclear decommissioning assistance programmes	COUNCIL REGULATION (EURATOM) No 1369/2013 of 13 December 2013 on Union <b>support for the nuclear decommissioning assistance programme in Lithuania</b> , and repealing Regulation (EC) No 1990/2006
		COUNCIL REGULATION (EURATOM) No 1368/2013 of 13 December 2013 on Union <b>support for the nuclear decommissioning assistance programmes in Bulgaria and Slovakia</b> , and repealing Regulations (Euratom) No 549/2007 and (Euratom) No 647/2010
	Cohesion Fund	REGULATION (EU) No 1303/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 laying down <b>common provisions</b> on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006
		REGULATION (EU) No 1300/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 on the <b>Cohesion Fund</b> and repealing Council Regulation (EC) No 1084/2006
	Less developed regions	REGULATION (EU) No 1303/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 laying down <b>common provisions</b> on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006
		REGULATION (EU) No 1301/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 on the <b>European Regional Development Fund and on specific provisions concerning the Investment for growth and jobs goal</b> and repealing Regulation (EC) No 1080/2006
		REGULATION (EU) No 1304/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 on <b>the European Social Fund</b> and repealing Council Regulation (EC) No 1081/2006
	More developed regions	REGULATION (EU) No 1303/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 laying down <b>common provisions</b> on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006
		REGULATION (EU) No 1301/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 on the <b>European Regional Development Fund and on specific provisions concerning the Investment for growth and jobs goal</b> and repealing Regulation (EC) No 1080/2006
		REGULATION (EU) No 1304/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 on <b>the European Social Fund</b> and repealing Council Regulation (EC) No 1081/2006
	Outermost and sparsely populated regions	REGULATION (EU) No 1303/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 laying down <b>common provisions</b> on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006

			REGULATION (EU) No 1301/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 on the <b>European Regional Development Fund and on specific provisions concerning the Investment for growth and jobs goal</b> and repealing Regulation (EC) No 1080/2006
		Territorial Cooperation	REGULATION (EU) No 1299/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 on <b>specific provisions for the support from the European Regional Development Fund to the European territorial cooperation goal</b>
			REGULATION (EU) No 1302/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 amending Regulation (EC) No 1082/2006 on a <b>European grouping of territorial cooperation (EGTC)</b> as regards the clarification, simplification and improvement of the establishment and functioning of such groupings
		Transition regions	REGULATION (EU) No 1303/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 laying down <b>common provisions</b> on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006
			REGULATION (EU) No 1301/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 on the <b>European Regional Development Fund and on specific provisions concerning the Investment for growth and jobs goal</b> and repealing Regulation (EC) No 1080/2006
			REGULATION (EU) No 1304/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 on <b>the European Social Fund</b> and repealing Council Regulation (EC) No 1081/2006
		Youth employment initiative	REGULATION (EU) No 1304/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 on <b>the European Social Fund</b> and repealing Council Regulation (EC) No 1081/2006
	Sustainable Growth	Common Agricultural Policy	REGULATION (EU) No 1306/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 on the <b>financing, management and monitoring of the common agricultural policy</b> and repealing Council Regulations (EEC) No 352/78, (EC) No 165/94, (EC) No 2799/98, (EC) No 814/2000, (EC) No 1290/2005 and (EC) No 485/2008
			REGULATION (EU) No 1307/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 december 2013 <b>establishing rules for direct payments to farmers under support schemes within the framework of the common agricultural policy</b> and repealing Council Regulation (EC) No 637/2008 and Council Regulation (EC) No 73/2009
			REGULATION (EU) No 1308/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 <b>establishing a common organisation of the markets in agricultural products</b> and repealing Council Regulations (EEC) No 922/72, (EEC) No 234/79, (EC) No 1037/2001 and (EC) No 1234/2007
		European Maritime Affairs and Fisheries	REGULATION (EU) No 508/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 May 2014 on <b>the European Maritime and Fisheries Fund</b> and repealing Council Regulations (EC) No 2328/2003, (EC) No 861/2006, (EC) No 1198/2006 and (EC) No 791/2007 and Regulation (EU) No 1255/2011 of the European Parliament and of the Council
			REGULATION (EU) No 1379/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 on <b>the common organisation of the markets in fishery and aquaculture products</b> , amending Council Regulations (EC) No 1184/2006 and (EC) No 1224/2009 and repealing Council Regulation (EC) No 104/2000

		REGULATION (EU) No 1380/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 on the <b>Common Fisheries Policy</b> , amending Council Regulations (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 2371/2002 and (EC) No 639/2004 and Council Decision 2004/585/EC
	<b>LIFE programme</b>	REGULATION (EU) No 1293/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 on the <b>establishment of a Programme for the Environment and Climate Action (LIFE)</b> and repealing Regulation (EC) No 614/2007
	Rural development	REGULATION (EU) No 1305/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 on <b>support for rural development by the European Agricultural Fund for Rural Development (EAFRD)</b> and repealing Council Regulation (EC) No 1698/2005
Security and Citizenship	Asylum, Migration and Integration	Regulation (EU) No 516/2014 establishing the Asylum, Migration and Integration <b>Fund</b>
		Regulation (EU) No 514/2014 laying down <b>general provisions on the Asylum, Migration and Integration Fund and on the instrument for financial support for police cooperation, preventing and combating crime, and crisis management</b>
	<b>Civil Protection Mechanism</b>	Decision No 1313/2013/EU on a Union <b>Civil Protection Mechanism</b>
	<b>Consumer Programme</b>	Regulation (EU) No 254/2014 of the European Parliament and of the Council on a <b>multiannual consumer programme</b> for the years 2014-20+D45:E46
	<b>Creative Europe</b>	Regulation (EU) No 1295/2013 establishing the <b>Creative Europe Programme</b>
	<b>Europe for Citizens</b>	Council regulation (EU) No 390/2014 establishing the ‘ <b>Europe for Citizens’ programme</b> for the period 2014-2020
	Food and feed	Regulation (EU) No 652/2014 <b>laying down provisions for the management of expenditure relating to the food chain, animal health and animal welfare, and relating to plant health and plant reproductive material</b>
	<b>Health</b>	Regulation (EU) No 282/2014 on the establishment of a <b>third Programme for the Union's action in the field of health</b> (2014-2020)
	Internal Security Fund	Regulation (EU) No 515/2014 establishing, as part of the <b>Internal Security Fund, the instrument for financial support for external borders and visa</b>
		Regulation (EU) No 513/2014 establishing, as part of the <b>Internal Security Fund, the instrument for financial support for police cooperation, preventing and combating crime, and crisis management</b>
	IT systems	Regulation (EC) No 767/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 9 July 2008 concerning the Visa Information System (VIS) and the exchange of data between Member States on short-stay visas (VIS Regulation)
		Regulation (EC) No 1987/2006 of the European Parliament and of the Council of 20 December 2006 on the establishment, operation and use of the second generation Schengen Information System (SIS II)
	<b>Justice Programme</b>	Regulation (EU) No 1382/2013 establishing a <b>Justice Programme</b> for the period 2014 to 2020
	<b>Rights, Equality and Citizenship</b>	Regulation (EU) No 1381/2013 establishing a <b>Rights, Equality and Citizenship Programme</b> for the period 2014 to 2020



Global Europe	Common Foreign and Security Policy	Common Foreign and Security Policy (CFSP) of the European Union
	Development Cooperation Instrument	Regulation (EU) No 233/2014 <b>establishing a financing instrument for development cooperation for the period 2014-2020</b>
		Regulation (EU) No 236/2014 laying down <b>common rules and procedures for the implementation of the Union's instruments for financing external action</b>
	EU Aid Volunteers	Regulation (EU) No 375/2014 establishing the <b>European Voluntary Humanitarian Aid Corps</b> ("EU Aid Volunteers initiative")
	European Instrument for Democracy and Human Rights	Regulation (EU) No 235/2014 establishing a <b>financing instrument for democracy and human rights worldwide</b>
		Regulation (EU) No 236/2014 establishing <b>common rules and procedures for the implementation of the Union's instruments for external action</b>
	European neighbourhood Instrument	Regulation (EU) No 232/2014 establishing a <b>European Neighbourhood Instrument</b>
		Regulation (EU) No 236/2014 establishing <b>common rules</b> and procedures for the implementation of the Union's instruments for external action
	Guarantee fund for External Action	Council Regulation (EC, Euratom) No 480/2009 establishing a <b>Guarantee Fund</b> for external actions
	Humanitarian aid	Council regulation (EC) No 1257/96 concerning humanitarian aid
	Instrument for Nuclear Safety Cooperation (INSC)	Regulation (EURATOM) No 237/2014 establishing an <b>Instrument for Nuclear Safety Cooperation</b>
	Instrument for Pre-accession Assistance	Regulation (EU) No 231/2014 establishing an <b>Instrument for Pre-accession Assistance (IPA II)</b>
		Regulation (EU) No 236/2014 establishing <b>common rules</b> and procedures for the implementation of the Union's instruments for external action
	Instrument contributing to stability and peace	Regulation (EU) No 230/2014 establishing an <b>instrument contributing to stability and peace</b>
		Regulation (EU) No 236/2014 establishing <b>common rules</b> and procedures for the implementation of the Union's instruments for external action
Compensation	Macro-financial assistance	European Neighbourhood Policy
	Partnership Instrument (PI)	Regulation (EU) No 234/2014 establishing a <b>Partnership Instrument for cooperation with third countries</b>
		Regulation (EU) No 236/2014 establishing <b>common rules</b> and procedures for the implementation of the Union's instruments for external action
Admission	Covers the administrative expenditure of all the European institutions, pensions and European Schools.	
Compensation	Temporary payments designed to ensure that Croatia, who joined the EU in July 2013, does not contribute more to the EU budget than it benefits from it in the first year following its accession.	

**Table A.3. Work Programmes**

		<b>Work Programmes</b>
<b>CEF</b>		Connecting Europe Facility, Investing in Europe's Growth, 2014-2020
<b>Copernicus</b>		ANNEX to the Commission Implementing Decision on the adoption of the 2014 Copernicus Work Programme ANNEX to the Commission Implementing Decision on the adoption of the 2015 Copernicus Work Programme ANNEX to the Commission Implementing Decision on the adoption of the 2016 Copernicus Work Programme
<b>COSME</b>		ANNEX to the Commission Implementing Decision concerning the adoption of the work programme for 2014 and the financing for the implementation of Programme for the Competitiveness of Enterprises and small and medium-sized enterprises ANNEX to the Commission Implementing Decision concerning the adoption of the work programme for 2015 and the financing for the implementation of Programme for the Competitiveness of Enterprises and small and medium-sized enterprises ANNEX to the Commission Implementing Decision concerning the adoption of the work programme for 2016 and the financing for the implementation of Programme for the Competitiveness of Enterprises and small and medium-sized enterprises
<b>Customs, Taxation and Fight against Fraud</b>	<b>Customs 2020</b>	ANNEX to the COMMISSION IMPLEMENTING DECISION concerning the adoption of annual work programmes for 2015 for the Customs 2020 and Fiscalis 2020 programmes and the financing for the implementation of those programmes
	<b>Fiscalis 2020</b>	ANNEXES to the COMMISSION IMPLEMENTING DECISION concerning the adoption of annual work programmes 2016 for the Customs 2020 and Fiscalis 2020 programmes and a financing decision for expenditure to be committed by DG Taxud from the 2016 budget lines 140201 and 140301
	<b>Pericles</b>	ANNEX to the Annual Work Programme for Pericles 2020 and the financing for the implementation of the Pericles 2020 Programme in 2014 ANNEX to the COMMISSION DECISION of 17.4.2015 Concerning the adoption of the work programme for 2015 of the Pericles 2020 Programme ANNEX to the COMMISSION DECISION of 27.1.2016 Concerning the adoption of the work programme for 2016 of the Pericles 2020 Programme
	<b>Hercule III</b>	COMMISSION DECISION of 26.5.2014 concerning the adoption of the work programme for 2014 and the financing for the implementation of the Hercule III programme and Annual Work Programme 2014 for the implementation of the Hercule III Programme COMMISSION DECISION of 8.4.2015 concerning the adoption of the work programme for 2015 and the financing for the implementation of the Hercule III Programme and Annual Work Programme 2015 for the implementation of the Hercule III Programme ANNEX to the COMMISSION DECISION concerning the adoption of the annual work programme and the financing of the Hercule III Programme in 2016
<b>Employment and Social Innovation Programme - EaSI</b>		Annual work programme for grants and procurement for the European Union Programme for Employment and Social Innovation ("EaSI") for 2014 Annual work programme for grants and procurement for the European Union Programme for Employment and Social Innovation ("EaSI") and Pilot Projects for 2015 Work Programme Funding priorities for 2016, European Union Programme for Employment and Social Innovation (EaSI) European Union Programme for Employment and Social Innovation (EaSI) work Programme 2016 Annex 2: List of activities
<b>Erasmus +</b>		2014 annual work programme for the implementation of "Erasmus+", the Union Programme for Education, Training, Youth and Sport 2015 annual work programme for the implementation of 'Erasmus+': the Union Programme for Education, Training, Youth and Sport

	2016 annual work programme for the implementation of 'Erasmus+': the Union Programme for Education, Training, Youth and Sport
<b>Galileo and Egnos</b>	(part of Horizon 2020 WP on "Leadership in Enabling and Industrial Technologies - Space")
<b>Horizon 2020</b>	WP 2016 - 2017: 1. Introduction 2016-17 ; 2. Future and Emerging Technologies (FETs) 2016-17 ; 3. Marie Skłodowska-Curie actions (MSCA) 2016-17_v.1.1 ; 4. Research infrastructures (including e-Infrastructures) 2016-17_v.1.1 ; 5. Introduction to Leadership in enabling and industrial technologies (LEITs) 2016-17 ; 5i. Information and communication technologies (ICT) 2016-17 ; 5ii. Nanotechnologies, advanced materials, advanced manufacturing and processing, biotechnology 2016-17 ; 5iii. Space 2016-17_v.1.1 ; 6. Access to risk finance 2016-17_v.1.1 ; 7. Innovation in SMEs 2016-17_v.1.1 ; 8. Health, demographic change and wellbeing 2016-17_v.1.1 ; 9. Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy 2016-17_v.1.1 ; 10. Secure, clean and efficient energy 2016-17_v.1.1 ; 11. Smart, green and integrated transport 2016-17_v.1.1 ; 12. Climate action, environment, resource efficiency and raw materials 2016-17_v.1.1 ; 13. Europe in a changing world - inclusive, innovative and reflective societies 2016-17 ; 14. Secure societies - protecting freedom and security of Europe and its citizens 2016-17 ; 15. Spreading excellence and widening participation 2016-17_v.1.1 ; 16. Science with and for society 2016-17_v.1.1 ; 17. Cross-cutting activities (Focus Areas) 2016-17_v.1.1 ; 18. Fast Track to Innovation Pilot 2016-17_v.1.1 ; 19. Dissemination, Exploitation and Evaluation 2016-17_v.1.1
<b>LIFE programme</b>	COMMISSION IMPLEMENTING DECISION of 19 March 2014 on the adoption of the LIFE multiannual work programme for 2014-17 and ANNEX LIFE MULTIANNUAL WORK PROGRAMME FOR 2014-17
<b>Civil Protection Mechanism</b>	COMMISSION IMPLEMENTING DECISION of 30.11.2015 adopting the Annual Work Programme 2016 in the framework of Decision No 1313/2013/EU of the European Parliament and of the Council on a Union Civil Protection Mechanism COMMISSION IMPLEMENTING DECISION of 19.1.2015 adopting the 2015 annual work programme in the framework of Decision No 1313/2013/EU of the European Parliament and of the Council on a Union Civil Protection Mechanism COMMISSION IMPLEMENTING DECISION of 28.2.2014 adopting a financing decision for 2014 in the framework of the Decision No 1313/2013/EU of the European Parliament and of the Council on a Union Civil Protection Mechanism
<b>Consumer Programme</b>	ANNEX to the COMMISSION IMPLEMENTING DECISION concerning the adoption of the work programme for 2014 and the financing for the implementation of the multiannual consumer programme for the years 2014-2020 ANNEX to the COMMISSION IMPLEMENTING DECISION concerning the adoption of the work programme for 2015 and the financing for the implementation of the multiannual consumer programme for the years 2014-2020 ANNEX Regulation (EU) No 254/2014 of the European Parliament and of the Council of 26 February 2014 on a multiannual consumer programme for the years 2014-20, Work Programme 2016
<b>Creative Europe</b>	2014 annual work programme for the implementation of the Creative Europe Programme 2015 annual work programme for the implementation of the Creative Europe Programme 2016 annual work programme for the implementation of the Creative Europe Programme

<b>Europe for Citizens</b>	<p>COMMISSION IMPLEMENTING DECISION of 31.10.2013 concerning the adoption of the 2014 work programme and the financing for the implementation of the Europe for Citizens programme</p> <p>COMMISSION IMPLEMENTING DECISION of 8.12.2014 on the adoption of the 2015 work programme and the financing for the implementation of the Europe for Citizens programme and ANNEX to the</p> <p>Commission implementing decision on the adoption of the 2015 work programme and the financing for the implementation of the Europe for Citizens programme</p> <p>COMMISSION IMPLEMENTING DECISION of 18.12.2015 on the adoption of the 2016 work programme and the financing for the implementation of the Europe for Citizens programme and ANNEX to the</p> <p>Commission implementing decision on the adoption of the 2016 work programme and the financing for the implementation of the Europe for Citizens programme</p>
<b>Health</b>	<p>COMMISSION IMPLEMENTING DECISION of 26.5.2014 concerning the work programme for 2014 in the framework of the third Programme of the Union's action in the field of health (2014-2020) and the EU financial contribution to the WHO Framework Convention on Tobacco Control, serving as a financing decision and ANNEX I TO VII</p> <p>COMMISSION IMPLEMENTING DECISION of 2.6.2015 concerning the work programme for 2015 in the framework of the third Programme of the Union's action in the field of health (2014-2020) and the EU financial contribution to the WHO Framework Convention on Tobacco Control, serving as a financing decision and ANNEX I TO VII</p> <p>COMMISSION IMPLEMENTING DECISION of 1.3.2016 concerning the work programme for 2016 in the framework of the third Programme of the Union's action in the field of health (2014-2020) and the EU financial contribution to the WHO Framework Convention on Tobacco Control, serving as a financing decision and ANNEX I TO VII</p>
<b>Justice Programme</b>	<p>ANNEX to the Commission Implementing Decision concerning the adoption of the work programme for 2014 and the financing for the implementation of the Justice Programme</p> <p>ANNEX to the Commission Implementing Decision concerning the adoption of the work programme for 2015 and the financing for the implementation of the Justice Programme</p> <p>ANNEX to the Commission Implementing Decision concerning the adoption of the work programme for 2016 and the financing for the implementation of the Justice Programme</p>
<b>Rights, Equality and Citizenship</b>	<p>ANNEX to the Commission Implementing Decision concerning the adoption of the work programme for 2014 and the financing for the implementation of the Rights, Equality and Citizenship Programme</p> <p>ANNEX to the Commission Implementing Decision concerning the adoption of the work programme for 2015 and the financing for the implementation of the Rights, Equality and Citizenship Programme</p> <p>ANNEX to the Commission Implementing Decision concerning the adoption of the work programme for 2016 and the financing for the implementation of the Rights, Equality and Citizenship Programme</p>

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**Table B.1. CEF Programme**

		<b>Mix of domains</b>			
	<b>CEF</b>	Direct support for public R&D and provision of public R&D infrastructure	Support for private R&D and innovation capacity building in the corporate sector	Strengthening the linkages between the various participants within the system of innovation, especially between public R&D and the private sector	Enhancing the framework conditions for innovation
<b>Fields of action</b>	Agriculture, fisheries and foods				
	Business				
	Climate Action				
	Cross-cutting policies				
	Culture, Education and youth				
	Economy, finance and tax				
	Employment and social rights				
	Energy and natural resources	Studies		Studies	
	Environment, consumers and health	Studies, works	Works, Studies	Studies	Studies
	External relations and foreign affairs				
	Justice, home affairs and citizen's rights				
	Regions and local development			Works	Studies
	Science and technology	Studies		Studies	
	EU explained				
	Transport and Travel	Studies		Studies	Studies

Connecting Europe Facility (CEF) determines the conditions, methods and procedures for providing Union financial assistance to trans-European networks in order to support projects of common interest in the sectors of transport, telecommunications and energy infrastructures and to exploit potential synergies between those sectors.

In order to ensure uniform conditions for the implementation of this Regulation, implementing powers should be conferred on the Commission as regards multi-annual and annual work programmes.

Types of instruments	Explanation	Standard Eligibility Conditions
Studies	Activities needed to prepare project implementation, such as preparatory, mapping, feasibility, evaluation, testing and validation studies, including in the form of software, and any other technical support measure, including prior action to define and develop a project and decide on its financing, such as reconnaissance of the sites concerned and preparation of the financial package;	Proposals shall be submitted by one or more Member States or, with the agreement of the Member States concerned, by international organisations, joint undertakings, or public or private undertakings or bodies established in Member States. Proposals submitted by natural persons shall not be eligible.
Works	Purchase, supply and deployment of components, systems and services including software, the carrying-out of development and construction and installation activities relating to a project, the acceptance of installations and the launching of a project;	

#### **Management of the Programme**

The European Commission shares the responsibilities over the programme with an Executive Agency. The definition of European policy for the three fields of Energy, Communications and Transports is the responsibility of the European Commission, respectively its Directorate General for Energy (DG ENER), for Communications Networks, Content and Technology (DG CONNECT) and for Mobility and Transport (DG MOVE).

For the administration of the grants component of the fund (non-refundable financial contributions), which will constitute the bulk of the CEF contributions, the Commission will be assisted by an Executive Agency (INEA). INEA has the responsibility to turn policy into action, managing each project life cycle and supporting the beneficiaries in close cooperation with the EC. The support provided via innovative financial instruments will be managed by means of partnerships that the Commission will establish with the European Investment Bank (EIB) and other financial institutions.

#### **Complementarities with other funding**

CEF programme is designed in order to be coordinated with Horizon 2020 and European Structural Investment Funds (ESIF), given that the latter two also relate topics in the areas of ICT, energy and transport. On one hand, coordination with Horizon 2020 envisages a streamlined chain from R&D to deployment in the corresponding fields of knowledge and on the other hand, ESIF supports trans-European infrastructure network projects when there is no business case.

**Table B.2. Copernicus Programme**

		<b>Mix of domains</b>			
	<b>COPERNICUS</b>	Direct support for public R&D and provision of public R&D infrastructure	Support for private R&D and innovation capacity building in the corporate sector	Strengthening the linkages between the various participants within the system of innovation, especially between public R&D and the private sector	Enhancing the framework conditions for innovation
<b>Fields of action</b>	Agriculture, fisheries and foods				
	Business				
	Climate Action	CSeC, CSpC, CCSA	CSeC, CCSA	CSeC	CSeC
	Cross-cutting policies				
	Culture, Education and youth				
	Economy, finance and tax				
	Employment and social rights				
	Energy and Natural resources	CSeC	CSeC		
	Environment, consumers and health	CSeC	CSeC		
	External relations and foreign affairs				
	Justice, home affairs and citizen's rights				
	Regions and local development				
	Science and technology	CSeC, CSpC, CCSA	CSeC, CCSA		
	EU explained				
	Transport and Travel				

Copernicus is the European Earth monitoring programme based on a partnership between the Union, ESA (European Space Agency) and the Member States. Hence, it should build on existing European and national capacities and should complement them with new assets developed in common. It should benefit a wide range of Union policies and contribute to reaching the objectives of the Europe 2020 strategy, in particular by developing an effective space policy to provide the tools to address some of the key global challenges and meet the targets on climate change and energy sustainability. Copernicus should also support the implementation of the European space policy and support the growth of European markets for space-based data and services. The objective of Copernicus should be to provide accurate and reliable information in the field of the environment and security, tailored to the needs of users and supporting other Union policies, in particular relating to the internal market, transport, environment, energy, civil protection and civil security, cooperation with third countries and humanitarian aid.



Types of instruments	Explanation	Standard Eligibility Conditions
Copernicus Service Component (CSeC)	The objective of the Copernicus Service Component is to provide timely and reliable added-value information and forecasting on a wide set of geo-referenced parameters. To this end, it combines observations from satellites (largely those stemming from the Copernicus Space component) and in situ infrastructures (such as ground, air, ship or buoy based sensors), as well as reference and ancillary data, and assimilates them into a wide set of models. It is directly involved in the following areas: atmosphere monitoring, marine environment monitoring, land monitoring, climate change, emergency management and security.	Union institutions and bodies, European, national, regional or local authorities entrusted with the definition, implementation, enforcement or monitoring of a public service or policy; Research users: universities or any other research and education organisations; commercial and private users; charities, non-governmental organisations and international organisations.
Copernicus Space Component (CSpC)	The space component of Copernicus programme ensures sustainable spaceborne observations in the following areas: atmosphere monitoring, marine environment monitoring, land monitoring, climate change, emergency management and security.	
Cross-cutting and Support activities (CCSA)	Cross-cutting and Support activities include transversal activities to both components, Services and Space. It includes for example: communication, dissemination, data management, evaluation, in-situ coordination, among others.	

#### Management of the Programme

The Commission (DG for Internal Market, Industry, Entrepreneurship and SMEs) shall have overall responsibility for Copernicus and for the coordination among its different components. It shall manage the funds allocated and oversee the implementation of Copernicus including the setting of priorities, user involvement, cost, schedule, performance and procurement.

In the implementation of Copernicus, the Commission should rely, where appropriate, on European intergovernmental organisations with whom it has already established partnerships, in particular ESA for the technical coordination of the Copernicus space component, the definition of its architecture, the development and procurement of space assets, data access and the operation of dedicated missions. In addition, the Commission should also rely on the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT) for the operation of dedicated missions in accordance with its expertise and mandate.

#### Complementarities with other funding

Copernicus should be implemented consistently with other relevant Union instruments and actions, in particular with environmental and climate change actions, and instruments in the field of security, protection of personal data, competitiveness and innovation, cohesion, research, transport, competition and international cooperation, and with the European satellite navigation systems (Galileo and EGNOS).

Copernicus should also benefit from the results provided by Horizon 2020, in particular through its activities of research and innovation for future Earth Observation technologies and applications using remote sensing, airborne and in situ technologies and data to respond to the major societal challenges. The Commission should ensure appropriate synergy, transparency and clarity regarding the different aspects of Copernicus.

**Table B.3. COSME Programme**

		<b>Mix of domains</b>			
<b>COSME</b>		Direct support for public R&D and provision of public R&D infrastructure	Support for private R&D and innovation capacity building in the corporate sector	Strengthening the linkages between the various participants within the system of innovation, especially between public R&D and the private sector	Enhancing the framework conditions for innovation
<b>Fields of action</b>	Agriculture, fisheries and foods				
	Business		FI	FCE, AM, EEC	FCE, AM, FI
	Climate Action				
	Cross-cutting policies			FCE, AM	FCE, AM
	Culture, Education and youth				
	Economy, finance and tax				
	Employment and social rights				FCE
	Energy and Natural resources				FCE
	Environment, consumers and health				FCE
	External relations and foreign affairs				AM
	Justice, home affairs and citizen's rights				
	Regions and local development				FCE
	Science and technology				FCE
	EU explained			AM	
	Transport and Travel				

COSME programme was established in order to contribute to the reinforcement of competitiveness and sustainability of Union enterprises, in particular SMEs, to support existing SMEs, to encourage an entrepreneurial culture and to promote the growth of SMEs, the advancement of the knowledge society, and development based on balanced economic growth. The COSME programme should therefore address market failures which affect the competitiveness of the Union economy on a global scale and which undermine the capacity of enterprises, particularly SMEs, to compete with their counterparts in other parts of the world. In particular, the Programme should help to identify and to analyse innovative solutions, and to scale up their practical implementation, through social policy experimentation, so as to assist, where necessary, Member States to increase the efficiency of their labour markets and to further improve their social protection and inclusion policies.

<b>Types of Instruments</b>	<b>Explanation</b>	<b>Standard Eligibility Conditions</b>
Financial Instrument (FI)	Financial instruments support EU enterprises' growth and RDI from the early stage (including seed) to the growth stage. It considers Loan Guarantee Facility, Equity facility for growth and accompanying measures.	SMEs
Access to markets (AM)	Support and information to SMEs to help expand abroad and become more competitive, mapping and filling gaps in support services and training programmes for SME managers.	The main beneficiaries are: SMEs and public or private bodies promoting SME's access to markets
Framework Conditions for Enterprises (FCE)	The Commission supports actions to improve the framework conditions for the competitiveness and sustainability of Union enterprises, particularly SMEs. Two lines of action shall be presented: reduce administrative burden and accelerate the emergence of competitive industries.	The main beneficiaries are: SMEs, SMEs consortium and public or private bodies representing SME's interests
Entrepreneurship and Entrepreneurial Culture (EEC)	Actions developing entrepreneurial skills and attitudes, especially among new entrepreneurs, young people and women, creating mentoring schemes and promoting social entrepreneurship. Examples of activities are: Erasmus for Young Entrepreneurs exchange programme, workshops and exchanges of best practices (European Network of Mentors for Women Entrepreneurs), awareness raising and promotional activities (European SME Week).	The main beneficiaries are: Individuals; public entities responsible for or active in the fields of economic affairs, enterprise, business support or related issues, (e.g. national/regional authorities, governmental agencies); chambers of commerce and industry, chambers of handicrafts or similar bodies; business support organisations/support providers; business associations and business support networks; education and training providers.

#### **Management of the Programme**

In order to ensure uniform conditions for the implementation of this Regulation, implementing powers should be conferred on the Commission, to adopt annual work programmes for the implementation of the COSME programme. Some of the actions included in the annual work programme involve the co-ordination of actions at national level. The Commission is responsible for the implementation of COSME and the implementation is partly delegated to the Executive Agency for SMEs, while the financial instruments are entrusted to the European Investment Fund (EIF). Indirect management with international organisations is also envisaged for certain analytical and benchmarking activities.

#### **Complementarities with other funding**

The COSME programme complements other Union programmes, while acknowledging that each instrument should work according to its own specific procedures. Thus, the same eligible costs should not receive double funding. With the aim of achieving added value and substantial impact of Union funding, close synergies should be developed between the COSME programme and other Union programmes, namely the Horizon 2020 programme and Structural Funds. The Commission shall support actions which aim to facilitate and improve access to finance for SMEs in their start-up, growth and transfer phases, being complementary to the Member States' use of financial instruments for SMEs at national and regional level. In order to ensure complementarity, such actions shall be closely coordinated with those undertaken in the framework of cohesion policy, the Horizon 2020 programme and at national or regional level.

**Table B.4. Customs Programme**

		<b>Mix of domains</b>			
<b>CUSTOMS</b>		Direct support for public R&D and provision of public R&D infrastructure	Support for private R&D and innovation capacity building in the corporate sector	Strengthening the linkages between the various participants within the innovation system, especially between public R&D and the private sector	Enhancing the framework conditions for innovation
<b>Fields of action</b>	Agriculture, fisheries and foods				
	Business				
	Climate Action				
	Cross-cutting policies				
	Culture, Education and youth				
	Economy, finance and tax		ITCP		JA
	Employment and social rights				
	Energy and Natural resources				
	Environment, consumers and health				
	External relations and foreign affairs				
	Justice, home affairs and citizen's rights				
	Regions and local development				
	Science and technology				
	EU explained				
	Transport and Travel				

The multiannual action programme "Customs 2020" was established to support the functioning of the Customs Union. The objectives of the Programme should take into account the problems and challenges identified for customs in the next decade. The Programme should also be dedicated to trade facilitation, inter alia, through collaborative efforts to fight fraud and increasing the administrative capacity of customs authorities.

The specific objectives shall be achieved, in particular by: (a) computerisation; (b) ensuring modern and harmonised approaches to customs procedures and controls; (c) facilitating legitimate trade; (d) reducing compliance costs and administrative burden; and (e) enhancing the functioning of the customs authorities.

<b>Types of Instruments</b>	<b>Explanation</b>	<b>Standard Eligibility Conditions</b>
Joint Actions (JA)	Grants for actions co-financed with Member State authorities. Joint Actions' proposals should provide a genuine European dimension in order to make sense both technically and in terms of policy.	Participation in joint actions shall be on a voluntary basis. Participating countries shall ensure that officials with an adequate profile and qualifications are nominated to participate in the joint actions.
IT Capacity Building (ITCP)	Development, maintenance, operation and quality control of Union components of the European Information Systems and new European Information Systems established under Union law;	Customs administrations and entities under Procurement Procedures.
Human Competence building (HCB)	Common training actions to support the necessary professional skills and knowledge relating to customs.	Participation in the common training actions shall be on a voluntary basis. Participating countries shall, where appropriate, integrate jointly developed training content, including e-learning modules, training programmes and commonly agreed training standards into their national training programmes.

#### **Management of the Programme**

In order to ensure uniform conditions for the implementation of this Regulation, implementing powers should be conferred on the Commission in respect of the establishment of the annual work programmes. The Commission should be assisted by the Customs 2020 Committee for the implementation of the Programme.

#### **Complementarities with other funding**

To promote coherence and simplification of funding programmes, resources should be shared with other Union funding instruments, if the envisaged activities under the Programme pursue common objectives, excluding however double financing. Actions under the Programme should ensure coherence in the use of the Union's resources supporting the functioning of the customs union.

**Table B.5. Fiscalis 2020**

		<b>Mix of domains</b>			
<b>FISCALIS</b>		Direct support for public R&D and provision of public R&D infrastructure	Support for private R&D and innovation capacity building in the corporate sector	Strengthening the linkages between the various participants within the innovation system, especially between public R&D and the private sector	Enhancing the framework conditions for innovation
<b>Fields of action</b>	Agriculture, fisheries and foods				
	Business				
	Climate Action				
	Cross-cutting policies				
	Culture, Education and youth				
	Economy, finance and tax		EISB		JA
	Employment and social rights				
	Energy and Natural resources				
	Environment, consumers and health				
	External relations and foreign affairs				
	Justice, home affairs and citizen's rights				
	Regions and local development				
	Science and technology				
	EU explained				
	Transport and Travel				

The multi-annual action programme "Fiscalis 2020" was established to improve the operation of the taxation systems in the internal market and to support cooperation in relation thereto. The scope of Fiscalis 2020 should be brought into line with current needs so as to focus on all taxes harmonised at Union level and other taxes in so far as they are relevant for the internal market and for administrative cooperation between the Member States. The specific objective of the programme shall be to support the fight against tax fraud, tax evasion and aggressive tax planning and the implementation of Union law in the field of taxation by ensuring exchange of information, by supporting administrative cooperation and, where necessary and appropriate, by enhancing the administrative capacity of participating countries with a view to assisting in reducing the administrative burden on tax authorities and the compliance costs for taxpayers. At an operational level, Fiscalis 2020 should implement, operate and support the European Information Systems and administrative cooperation activities, reinforce the skills and competences of tax officials, enhance the understanding and implementation of Union law in the field of taxation, and support the improvement of administrative procedures and the sharing and dissemination of good administrative practices. Those objectives should be pursued with an emphasis on supporting the fight against tax fraud, tax evasion and aggressive tax planning.

<b>Types of Instruments</b>	<b>Explanation</b>	<b>Standard Eligibility Conditions</b>
Joint Actions (JA)	Grants for actions co-financed with Member State authorities. Joint Actions' proposals should provide a genuine European dimension in order to make sense both technically and in terms of policy.	Participation in joint actions shall be on a voluntary basis. Participating countries shall ensure that officials with an appropriate profile and qualifications, including language skills, are nominated to participate in the joint actions. Participating countries shall, where appropriate, take the necessary measures to raise awareness of the joint actions and to ensure that use is made of the outputs generated.
European Information Systems Building (EISB)	The development, maintenance, operation and quality control of Union components of the European Information Systems and new European Information Systems established under Union law, with a view to interconnecting tax authorities efficiently; The Commission and the participating countries shall ensure that the European Information Systems are developed, operated and appropriately maintained.	Customs administrations and entities under Procurement Procedures.
Common Training Activities (CTA)	Jointly developed training actions to support the necessary professional skills and knowledge relating to taxation.	Participation in common training activities shall be on a voluntary basis. Participating countries shall ensure that officials with an appropriate profile and qualifications, including language skills, are nominated to participate in the common training activities. Participating countries shall integrate, where appropriate, jointly developed training content, including e-learning modules, training programmes and commonly agreed training standards into their national training programmes.

#### **Management of the Programme**

Implementing powers should be conferred on the Commission in respect of the establishment of annual work programmes. The Commission should be assisted by the Fiscalis 2020 Committee for the implementation of Fiscalis 2020.

#### **Complementarities with other funding**

In line with the Commission's commitment, resources should be shared with other Union funding instruments if the envisaged activities under Fiscalis 2020 pursue objectives which are common to various funding instruments, excluding however double financing. Actions under the Programme should ensure coherence in the use of the Union's resources supporting the functioning of the customs union.

**Table B.6. Pericles**

	<b>PERICLES</b>	<b>Mix of domains</b>			
		Direct support for public R&D and provision of public R&D infrastructure	Support for private R&D and innovation capacity building in the corporate sector	Strengthening the linkages between the various participants within the innovation system, especially between public R&D and the private sector	Enhancing the framework conditions for innovation
<b>Fields of action</b>	Agriculture, fisheries and foods				
	Business				
	Climate Action				
	Cross-cutting policies				
	Culture, Education and youth				
	Economy, finance and tax				
	Employment and social rights				
	Energy and Natural resources				
	Environment, consumers and health				
	External relations and foreign affairs				
	Justice, home affairs and citizen's rights				
	Regions and local development				
	Science and technology				
	EU explained				
	Transport and Travel				

Pericles 2020 is the multiannual action programme to promote the protection and safeguarding of the euro against counterfeiting and related fraud. The general objective of the Programme shall be to enhance the competitiveness of the Union's economy and securing the sustainability of public finances.

**As private entities cannot be beneficiaries and research entities cannot be beneficiaries within the programme, it is considered that it does not promote innovation according to the definition of innovation given in the Oslo manual and adopted in the present research.**



<b>Types of instruments</b>	<b>Explanation</b>	<b>Standard Eligibility Conditions</b>
Exchange and Dissemination	Exchange and dissemination of information, in particular through organising workshops, meetings and seminars, including training, targeted placements and exchanges of staff of competent national authorities and other similar actions. The exchange of information shall, inter alia, be targeted at: (i) methodologies for monitoring and analysing the economic and financial impact of counterfeiting; (ii) operation of databases and early warning systems; (iii) use of detection tools with computer back-up; (iv) enquiry and investigation methods; (v) scientific assistance, in particular scientific databases and technology watch/monitoring of new developments; (vi) protection of the euro outside the Union; (vii) research actions; (viii) provision of specific operational expertise;	The Programme shall target the participation of the following groups: (a) staff of agencies engaged in detecting and combating counterfeiting, in particular police forces and financial administrations, depending on their specific functions at national level; (b) intelligence personnel; (c) representatives of the national central banks, commercial banks and other financial intermediaries, in particular as regards the obligations of financial institutions; (d) judicial officers, specialist lawyers and members of the judiciary in this field; (e) any other group of specialists concerned, such as chambers of commerce and industry or comparable structures capable of providing access to small and medium-sized enterprises, retailers and cash-in-transit companies.
Technical, scientific and operational assistance	Technical, scientific and operational assistance, as appears necessary as part of the Programme including in particular: (i) any appropriate measure which establishes teaching resources at Union level, such as a handbook of Union legislation, information bulletins, practical manuals, glossaries and lexicons, databases, especially in the area of scientific assistance or technology watch or computer support applications, such as software; (ii) relevant studies with a multidisciplinary and transnational dimension; (iii) development of technical support instruments and methods to facilitate detection actions at Union level; (iv) financial support for cooperation in operations involving at least two States when such support is not available from other programmes of European institutions and bodies;	
Equipment	Grants to finance the purchase of equipment to be used by specialised anti-counterfeiting authorities for protecting the euro against counterfeiting.	

#### **Management of the Programme**

The strategy for implementing the Pericles programme has traditionally been based on the deliberations of the Commission's Euro Counterfeiting Experts' Group (ECEG), bringing together experts from all relevant disciplines and Member States, as well as Europol, Interpol and the ECB. The discussions are generally based on notes prepared by ECFIN and bilateral preparations with potential Pericles beneficiaries.

#### **Complementarities with other funding**

The Commission should undertake the necessary steps to ensure that the annual work programmes are consistent with and complementary to other relevant programmes funded by the Union, in particular in the area of customs, in order to strengthen the overall impact of the actions of the Programme and to avoid any overlapping of the Programme with other programmes.

**Table B.7. Hercule III**

	<b>HERCULE III</b>	Mix of domains			
		Direct support for public R&D and provision of public R&D infrastructure	Support for private R&D and innovation capacity building in the corporate sector	Strengthening the linkages between the various participants within the innovation system, especially between public R&D and the private sector	Enhancing the framework conditions for innovation
Fields of action	Agriculture, fisheries and foods				
	Business				
	Climate Action				
	Cross-cutting policies				
	Culture, Education and youth				
	Economy, finance and tax				
	Employment and social rights				
	Energy and Natural resources				
	Environment, consumers and health				
	External relations and foreign affairs				
	Justice, home affairs and citizen's rights				
	Regions and local development				
	Science and technology				
	EU explained				
	Transport and Travel				

Hercule III is the multiannual action programme to promote activities against fraud, corruption and any other illegal activities affecting the financial interests of the Union. The Programme shall contribute to all of the following: (a) the development of activities at Union level and the Member States to counter fraud, corruption and any other illegal activities affecting the financial interests of the Union, including the fight against cigarette smuggling and counterfeiting; (b) increased transnational cooperation and coordination at Union level, between Member States' authorities, the Commission and the European Anti-Fraud Office (OLAF), and in particular with regard to the effectiveness and efficiency of cross-border operations; (c) the effective prevention of fraud, corruption and any other illegal activities affecting the financial interests of the Union, by offering joint specialised training for staff of national and regional administrations, and for other stakeholders.

**Even though Hercule programme promotes research activities, its range of influence affects only public authorities. Considering that it does not reach market, it does not fit into the definition of innovation used in the present study.**

<b>Types of instruments</b>	<b>Explanation</b>	<b>Standard Eligibility Conditions</b>
Technical Assistance (TA)	Strengthen the operational and administrative capacity to fight fraud, corruption and other irregularities perpetrated against the Union's financial interests.	The bodies eligible to receive grants under the Programme are: National or regional administrations in a participating country which promote the strengthening of action at Union level to protect the Union's financial interests (eligible for technical assistance, training and other actions); and Research and educational institutes and non-profit-making entities that have been established and operating in a participating country for at least a year and promote the strengthening of action at Union level to protect the Union's financial interests (eligible for training and other actions).
Legal Training and Studies (LTS)	High profile research activities (including comparative law studies), organisation of Conferences (including the annual meeting of the presidents of the Associations for European criminal law) as well as actions to raise awareness of the judiciary and other branches of the legal profession for the protection of the Union's financial interests.	
Training & Conferences (T&C)	Organisation of targeted specialised and risk analysis training workshops, conferences aimed at protecting the financial interests of the Union and at same time to attain an equivalent level of protection across the Union. The training actions are also intended to create networks between Member States, accession countries, candidate countries, non-EU Member States and international public organisations in order to facilitate exchange of information, experience and best practices.	

#### **Management of the Programme**

The European Anti-Fraud Office (OLAF) is managing the Hercule III programme on behalf of the European Commission. OLAF is operationally independent but is nevertheless part of the European Commission and as such is bound by the administrative and legal provisions of the EU institutions. The mission of the European Anti-Fraud Office is to detect, investigate and stop fraud with EU funds. OLAF fulfils its mission by: carrying out independent investigations into fraud and corruption involving EU funds so as to ensure that all EU taxpayers' money reaches projects that can stimulate the creation of jobs and growth in Europe; contributing to strengthening citizens' trust in the EU institutions by investigating serious misconduct by EU staff and members of the EU institutions; developing a sound EU anti-fraud policy.

#### **Complementarities with other funding**

The Commission should undertake the necessary steps to ensure that the annual work programmes are consistent with and complementary to other relevant programmes funded by the Union, in particular in the area of customs, in order to strengthen the overall impact of the actions of the Programme and to avoid any overlapping of the Programme with other programmes.

**Table B.8. Employment and Social Innovation (EaSI) programme**

	<b>EaSI</b>	<b>Mix of domains</b>			
		<b>Direct support for public R&amp;D and provision of public R&amp;D infrastructure</b>	<b>Support for private R&amp;D and innovation capacity building in the corporate sector</b>	<b>Strengthening the linkages between the various participants within the innovation system, especially between public R&amp;D and the private sector</b>	<b>Enhancing the framework conditions for innovation</b>
<b>Fields of action</b>	Agriculture, fisheries and foods				
	Business		MSE		
	Climate Action				
	Cross-cutting policies				
	Culture, Education and youth				ANALYTICAL
	Economy, finance and tax				ANALYTICAL
	Employment and social rights	PROGRESS			ANALYTICAL
	Energy and Natural resources				
	Environment, consumers and health				
	External relations and foreign affairs				
	Justice, home affairs and citizen's rights				
	Regions and local development				ANALYTICAL
	Science and technology				
	EU explained				
	Transport and Travel				

The Employment and Social Innovation (EaSI) programme is a financing programme at EU level to promote a high level of quality and sustainable employment, guaranteeing adequate and decent social protection, combating social exclusion and poverty and improving working conditions. It meets the goals of two Europe 2020 flagship initiatives: "European Platform against Poverty and Social Exclusion" and "Innovation Union". Social innovation is at the centre of the programme, addressing the social challenges arising from population ageing, poverty, unemployment, new work patterns and life styles, and the expectations of citizens regarding social justice, education and health care. Nevertheless, social innovation does not fit into the Oslo definition, used in the present study and therefore, only innovation linked with market activities will be considered. As the programme also acts as a catalyst for transnational partnerships and networking involving the private sector, it is thought to promote innovation.

Types of instruments	Explanation	Standard Eligibility Conditions
EURES	European Network and Employment Service: development of partnerships; provision of information, multilingual digital platform; design and implementation of mobility schemes.	Actors and Institutions designated by a Member State or by the Commission, in particular: (a) national, regional and local authorities; (b) employment services; (c) social partner organisations and other interested parties.
Microfinance and Social Entrepreneurship (MSE)	Support to microfinance and social enterprises, including for institutional capacity building.	Public and private bodies established at national, regional or local level and providing microfinance for persons and micro-enterprises and/or financing for social enterprises.
PROGRESS - Analytical activities (ANALYTICAL)	Supporting the development, implementation, monitoring and evaluation of Union employment and Social policy and legislation on working conditions. Gathering of data and statistics, taking account of both qualitative and quantitative criteria, and developing common methodologies, classifications, micro-simulations, indicators and benchmarks, where appropriate broken down by sex and age-group.	The Progress axis shall be open to all public and/or private bodies, actors and institutions, and in particular: (a) national, regional and local authorities; (b) employment services; (c) specialist bodies provided for and under Union law; (d) the social partners; (e) non-governmental organisations; (f) higher education institutions and research institutes; (g) experts in evaluation and in impact assessment; (h) national statistical offices; (i) the media.
PROGRESS - Mutual learning, awareness and dissemination activities (AWARE)	Supporting the development, implementation, monitoring and evaluation of Union employment and Social policy and legislation on working conditions. Exchanges and dissemination of good practice, innovative approaches and experience, peer reviews, benchmarking and mutual learning at European level; Council Presidency events; training of legal and policy practitioners; information and communication activities; development and maintenance of information systems in order to exchange and disseminate information on Union policy and legislation and on the labour market.	
PROGRESS - Support activities (SUPPORT)	Supporting the development, implementation, monitoring and evaluation of Union employment and Social policy and legislation on working conditions. Operating costs of key Union-level networks; capacity-building of national administrations and specialist services responsible for promoting geographical mobility designated by the Member States and microcredit providers; Organisation of working groups of national officials to monitor the implementation of Union law; Networking and cooperation among specialist bodies and other relevant stakeholders, national, regional and local authorities and employment services at European level; Funding of European-level observatories, including on key thematic sections; Exchange of personnel between national administrations.	

**Management of the Programme**

EaSI is a programme managed directly by the EC, namely DG Employment, Social Affairs and Inclusion.

**Complementarities with other funding**

With the aim of adding value and achieving substantial impact through Union funding, close synergies should be developed between the Programme, other Union programmes and the Structural Funds, especially the ESF and the Youth Employment Initiative. The Programme should complement other Union programmes and initiatives that focus on combating youth unemployment.

Actions eligible under the Programme may be implemented jointly with other Union instruments, provided that such actions meet the objectives of both the Programme and the other instruments concerned.

**Table B.9. Erasmus +**

	<b>ERASMUS +</b>	<b>Mix of domains</b>			
		Direct support for public R&D and provision of public R&D infrastructure	Support for private R&D and innovation capacity building in the corporate sector	Strengthening the linkages between the various participants within the innovation system, especially between public R&D and the private sector	Enhancing the framework conditions for innovation
<b>Fields of action</b>	Agriculture, fisheries and foods			CIEGP	
	Business		CIEGP	CIEGP	
	Climate Action			CIEGP	
	Cross-cutting policies			CIEGP	
	Culture, Education and youth	JM	CIEGP	CIEGP, JM	JM
	Economy, finance and tax			CIEGP	
	Employment and social rights			CIEGP	
	Energy and Natural resources			CIEGP	
	Environment, consumers and health			CIEGP	
	External relations and foreign affairs			CIEGP	
	Justice, home affairs and citizen's rights			CIEGP	
	Regions and local development			CIEGP	
	Science and technology	JM	CIEGP	CIEGP, JM	JM
	EU explained	JM		CIEGP, JM	JM
	Transport and Travel			CIEGP	

Programme for Union action in the field of education, training, youth and sport. The Programme shall cover the following fields, whilst respecting the structures and specific needs of the various sectors in the Member States:

(a) education and training at all levels, in a lifelong learning perspective, including school education (Comenius), higher education (Erasmus), international higher education (Erasmus Mundus), vocational education and training (Leonardo da Vinci) and adult learning (Grundtvig);

(b) youth (Youth in Action), particularly in the context of non-formal and informal learning;

(c) sport, in particular grassroots sport;

The Programme shall include an international dimension aimed at supporting the Union's external action, including its development objectives, through cooperation between the Union and partner countries.

Types of Instruments	Explanation	Standard Eligibility Conditions
Learning Mobility of Individuals (LMI)	The activities funded include the mobility of students in all cycles of higher education and in vocational and educational training or the mobility of staff (teachers or assistants). This action also supports international mobility.	Higher education institutions; public or private organisation active in the labour market or in the fields of education, training and youth, Individual organisations or consortia, established in a Programme Country, that are holders of the Erasmus+ VET Mobility Charter; Schools; Adult education organisations; Public body at regional or national level; Associations of regions; European Grouping of Territorial Cooperation; Profit-making body active in Corporate Social Responsibility.
Cooperation for Innovation and the Exchange of Good Practices (CIEGP)	The activities funded include: (a) strategic partnerships between organisations and/or institutions involved in education and training or other relevant sectors aimed at developing and implementing joint initiatives and promoting peer learning and exchanges of experience; (b) partnerships between the world of work and education and training institutions in the form of: (i) knowledge alliances between, in particular, higher education institutions and the world of work; (ii) sector skills alliances between education and training providers and the world of work; (c) IT support platforms, covering all education and training sectors, including in particular eTwinning, allowing peer learning, virtual mobility and exchanges of good practices and opening access for participants from neighbourhood countries. This action shall also support development, capacity-building, regional integration, knowledge exchanges and modernisation processes through international partnerships between higher education institutions in the Union and in partner countries.	Public or private organisations, established in a Programme Country or in any Partner Country of the world. A Strategic Partnership is transnational and involves minimum three organisations from three different Programme Countries. Knowledge Alliances are transnational and involve minimum six independent organisations from at least three Programme Countries, out of which at least two higher education institutions and at least two enterprises. The Sector Skill Alliance requires two or six partners according to the project.
Support for Policy Reform (SPR)	Support for policy reform shall include the activities initiated at Union level relating to: (a) the implementation of the Union policy agenda on education and training in the context of the OMC (Open Method of Coordination), as well as to the Bologna and Copenhagen processes; (b) the implementation in Programme countries of Union transparency and recognition tools; (c) the policy dialogue with relevant European stakeholders in the field of education and training; (d) NARIC, the Eurydice and Euroguidance networks, and the National Europass Centres.	A participating organisation can be: (i) a non-profit organisation, association, NGO; (ii) a European Youth NGO; (iii) a public body at local or regional level; established in a Programme Country or in a Partner Country neighbouring the EU.



	This action shall also support policy dialogue with partner countries and international organisations.	
Jean Monnet (JM)	<p>The Jean Monnet activities shall aim to:</p> <p>(a) promote teaching and research on European integration worldwide among specialist academics, learners and citizens, in particular through the creation of Jean Monnet Chairs;</p> <p>(b) support the activities of academic institutions or associations active in the field of European integration studies;</p> <p>(c) support the following institutions pursuing an aim of European interest: (i) the European University Institute of Florence; (ii) the College of Europe; (iii) the European Institute of Public Administration (EIPA); (iv) the Academy of European Law; (v) the European Agency for Development in Special Needs Education; (vi) the International Centre for European Training (CIFE);</p> <p>(d) promote policy debate and exchanges between the academic world and policy-makers on Union policy priorities.</p>	Higher Education Institutions (HEI); Associations of professors and researchers specialising in European Union Studies;
Sport (S)	The activities in the field of sport are expected to result in the development of the European dimension in sport by generating, sharing and spreading experiences and knowledge about different issues affecting sport at the European level.	Non-profit organisation or public body, active in the field of sport

#### **Management of the Programme**

The Programme shall be implemented in a consistent manner by the Commission at Union level (centralised actions) and the national agencies at national level in the Programme countries (decentralised actions). Centralised actions are managed either by DG Education and Culture (EAC) or the Executive Agency for Education, Audio-visual and Culture (EACEA).

#### **Complementarities with other funding**

The Commission, in cooperation with the Member States, shall ensure the overall consistency and complementarity of the Programme with:

- (a) the relevant policies and programmes, in particular those relating to culture and the media, employment, research and innovation, industry and enterprise, cohesion and development policy, as well as enlargement policy and initiatives, instruments and strategies in the field of regional policy and external relations;
- (b) the other Union relevant sources of funding for education, training, youth and sport, in particular the European Social Fund and the other financial instruments relating to employment and social inclusion, the European Regional Development Fund and 'Horizon 2020' - the Framework Programme for Research and Innovation, as well as the financial instruments relating to justice and citizenship, health, external cooperation programmes and pre-accession assistance.

**Table B.10. Horizon 2020**

	<b>HORIZON 2020</b>	<b>Mix of domains</b>			
		Direct support for public R&D and provision of public R&D infrastructure	Support for private R&D and innovation capacity building in the corporate sector	Strengthening the linkages between the various participants within the innovation system, especially between public R&D and the private sector	Enhancing the framework conditions for innovation
<b>Fields of action</b>	Agriculture, fisheries and foods	RIA, IA, CSA, ERA, PP	RIA, IA, CSA, FI, PP, SME	RIA, IA, CSA, ERA	RIA, IA, ERA, PP
	Business	RIA, IA, CSA, ERA, PP	RIA, IA, CSA, FI, SME, PP	RIA, IA, CSA, ERA	IA, CSA, PP
	Climate Action	RIA, IA, CSA, ERA, PP	RIA, IA, CSA, FI, ERA, SME	RIA, IA, CSA, ERA	CSA, ERA, PP
	Cross-cutting policies	RIA, IA, CSA		RIA, IA, CSA	CSA
	Culture, Education and youth	RIA, IA, CSA, ERA, PP	RIA, IA, CSA, SME	RIA, IA, CSA, ERA	RIA, CSA, PP, ERA
	Economy, finance and tax	RIA, IA, CSA, ERA, PP	RIA, CSA, FI	CSA	IA
	Employment and social rights	RIA, IA, CSA, ERA	SME	CSA	ERA
	Energy and Natural resources	RIA, IA, CSA, ERA, PP	RIA, IA, CSA, PPI, ERA, SME, Prize, FI	RIA, IA, CSA, ERA, PP, PPI	CSA, ERA, PP
	Environment, consumers and health	RIA, IA, CSA, ERA, PP	RIA, IA, PCP, CSA, PPI, SME, Prize, FI	RIA, IA, CSA, ERA, PP	RIA, CSA, ERA, PP
	External relations and foreign affairs	RIA, IA, CSA, ERA	RIA, IA	RIA, IA, CSA	RIA, CSA, ERA
	Justice, home affairs and citizen's rights	RIA, IA, CSA, ERA	RIA, IA, CSA, SME	RIA	RIA, ERA
	Regions and local development	RIA, IA, CSA	RIA, IA, SME, Prize, PCP	IA, RIA, CSA	CSA, RIA
	Science and technology	RIA, IA, CSA, ERA, PP	RIA, IA, CSA, SME, FI, PP	RIA, IA, CSA, ERA, PP	RIA, CSA, ERA, PCP, PP, FI
	EU explained	RIA, IA, CSA, ERA, PP	RIA	RIA, CSA	
	Transport and Travel	RIA, IA, CSA, ERA, PP	RIA, IA, CSA, Prize, SME	RIA, IA, CSA, ERA, PP	RIA, CSA, ERA, PP

Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020) determines the framework governing Union support to research and innovation activities, thereby strengthening the European scientific and technological base and fostering benefits for society as well as better exploitation of the economic and industrial potential of policies of innovation, research and technological development. Research and innovation activities mean the whole spectrum of activities of research, technological development, demonstration and innovation, including the promotion of cooperation with third countries and international organisations, the dissemination and optimisation of results and the stimulation of high quality training and mobility of researchers in the Union.

<b>Types of instruments</b>	<b>Explanation</b>	<b>Standard Eligibility Conditions</b>
Research and Innovation Action (RIA)	Actions primarily consisting of activities aiming to establish new knowledge and/or to explore the feasibility of a new or improved technology, product, process, service or solution. For this purpose, they may include basic and applied research, technology development and integration, testing and validation on a small-scale prototype in a laboratory or simulated environment.	At least three legal entities. Each of the three must be established in a different EU Member State or Horizon 2020 associated country. All three legal entities must be independent of each other.
Innovation Action (IA)	Actions primarily consisting of activities directly aiming at producing plans and arrangements or designs for new, altered or improved products, processes or services. For this purpose, they may include prototyping, testing, demonstrating, piloting, large-scale product validation and market replication.	At least three legal entities. Each of the three must be established in a different EU Member State or Horizon 2020 associated country. All three legal entities must be independent of each other.
Coordination and Support Actions (CSA)	Actions consisting primarily of accompanying measures such as standardisation, dissemination, awareness-raising and communication, networking, coordination or support services, policy dialogues and mutual learning exercises and studies, including design studies for new infrastructure and may also include complementary activities of strategic planning, networking and coordination between programmes in different countries.	At least one legal entity established in an EU Member State or Horizon 2020 associated country.
SME Instrument (SME)	The SME instrument is targeted at all types of innovative SMEs showing a strong ambition to develop, grow and internationalise. It provides staged support covering the whole innovation cycle in three phases complemented by a mentoring and coaching service.	At least one SME. Only applications from for-profit SMEs established in EU Member States or Horizon 2020 associated countries.
ERA-NET Cofund	ERA-NET Cofund actions under Horizon 2020 are designed to support public partnerships, including joint programming initiatives between Member States, in their preparation, establishment of networking structures, design, implementation and coordination of joint activities as well as EU topping-up of a trans-national call for proposals. It allows for programme collaboration in any part of the entire research-innovation cycle.	At least three legal entities. Each of the three must be established in a different EU Member State or Horizon 2020 associated country. All three legal entities must be independent of each other. Participants in ERA-NET Cofund actions must be 'research funders', i.e. legal entities owning or managing public research and innovation programmes.

European Joint Programme (EJP) Cofund	The European Joint Programme ('EJP') Cofund under Horizon 2020 is a cofund action designed to support coordinated national research and innovation programmes. The EJP Cofund aims at attracting and pooling a critical mass of national resources on objectives and challenges of Horizon 2020 and at achieving significant economies of scales by adding related Horizon 2020 resources to a joint effort.	At least five legal entities. Each of the five must be established in a different EU Member State or Horizon 2020 associated country. All five legal entities must be independent of each other. Participants in EJP Cofund actions must be legal entities owning or mandated to manage national research and innovation programmes.
Public Procurement (PP) Pre-Commercial Procurement (PCP)	PCP actions aim to encourage public procurement of research, development and validation of new solutions that can bring significant quality and efficiency improvements in areas of public interest, whilst opening market opportunities for industry and researchers active in Europe.	Defined according to each case.
Public Procurement (PP) Public Procurement of Innovative Solutions (PPI)	The objective of PPI actions is to enable groups of procurers to share the risks of acting as early adopters of innovative solutions, whilst opening market opportunities for industry.	
Financial Instruments (FI)	Financial instruments provide equity and debt to support SMEs' R&I and growth. The use of financial instruments will also help achieve the R&I objectives of all sectors and policy areas crucial for tackling the societal challenges, for enhancing competitiveness, and for supporting sustainable, inclusive growth and the provision of environmental and other public goods. Financial instruments shall be the main form of funding for activities close to market that are supported under Horizon 2020.	Defined according to each case.
Prize	Prizes are financial contributions given as rewards following the publication of a contest. A 'recognition prize' is used to recognise past achievements and outstanding work after it has been performed, whereas an 'inducement prize' is used to spur investment in a given direction, by specifying a target prior to the performance of the work.	Defined according to each prize.

#### **Management of the Programme**

Horizon 2020 shall be implemented by the Commission, namely DG R&I. The Commission may also entrust part of the implementation of Horizon 2020 to the funding bodies referred to in point (c) of Article 58(1) of Regulation (EU, Euratom) No 966/2012.

#### **Complementarities with other funding**

Horizon 2020 shall be implemented in a way which is complementary to other Union funding programmes and policies, including the European Structural and Investment Funds (ESI Funds), the Common Agricultural Policy, the Programme for the Competitiveness of Enterprises and small and medium sized enterprises (COSME) (2014–2020), the Erasmus+ programme and the Life Programme. In addition to Union, national and regional structural policies, Horizon 2020 shall also contribute to the closing of the research and innovation divide within the Union by promoting synergies with the European Structural and Investment Funds.

**Table B.11. Life**

	<b>LIFE</b>	<b>Mix of domains</b>			
		Direct support for public R&D and provision of public R&D infrastructure	Support for private R&D and innovation capacity building in the corporate sector	Strengthening the linkages between the various participants within the innovation system, especially between public R&D and the private sector	Enhancing the framework conditions for innovation
<b>Fields of action</b>	Agriculture, fisheries and foods				
	Business				
	Climate Action	TP	TP	IP, TP, Prep	IP, Prep, CBP
	Cross-cutting policies			IP	IP, CBP
	Culture, Education and youth				
	Economy, finance and tax				
	Employment and social rights				
	Energy and Natural Resources	TP	TP,	IP, TP, Prep	IP, Prep, CBP
	Environment, Consumers and Health	TP, CBP, Prep	TP, CBP	IP, TP, Prep	IP, Prep
	External relations and foreign affairs				
	Justice, home affairs and citizen's rights				
	Regions and local Development			IP, TP, Prep	IP, CBP
	Science and technology			TP	
	EU explained				
	Transport and Travel				
<p>LIFE is the programme for the environment and climate action. The LIFE Programme shall in particular have the following general objectives: (a) to contribute to the shift towards a resource-efficient, low-carbon and climate-resilient economy, to the protection and improvement of the quality of the environment and to halting and reversing biodiversity loss, including the support of the Natura 2000 network and tackling the degradation of ecosystems; (b) to improve the development, implementation and enforcement of Union environmental and climate policy and legislation, and to act as a catalyst for, and promote, the integration and mainstreaming of environmental and climate objectives into other Union policies and public and private sector practice, including by increasing the public and private sector's capacity; (c) to support better environmental and climate governance at all levels, including better involvement of civil society, NGOs and local actors; (d) to support the implementation of the 7th Environment Action Programme.</p> <p>These objectives shall be pursued through two sub-programmes: the sub-programme for Environment and the sub-programme for Climate Action.</p>					

<b>Types of Instruments</b>	<b>Explanation</b>	<b>Standard Eligibility Conditions</b>
Action Grants	Grants that support actions	<p>The LIFE Programme may fund public and private bodies, as national, regional or local authorities, SME, Research Institutions, Development agencies, large enterprises, Universities, International enterprises, NGO - Foundation, Professional Organizations, Public enterprises, Park-Reserve authority, among others.</p>
AG - Integrated Projects (IP)	Integrated Projects were introduced in order to be able to implement environmental legislation and goals on a wider scale and to increase the impact of the LIFE programme. They provide funding for plans, programmes and strategies developed on the regional, multi-regional or national level.	
AG - Preparatory Projects (Prep)	Preparatory projects address specific needs for the development and implementation of Union environmental or climate policy and legislation.	
AG - Traditional Projects (TP)	Traditional projects may be best-practice (taking into account the specific context of the project), demonstration (approaches that are new or unknown in the specific context of the project), pilot (method that has not been applied or tested before) or information, awareness and dissemination projects (supporting communication, dissemination of information and awareness raising in the fields of the sub-programmes for Environment and Climate Action),	
AG - Capacity Building Projects (CBP)	Provide financial support to activities required to build the capacity of Member States, including LIFE national or regional contact points, with a view to enabling Member States to participate more effectively in the LIFE Programme.	
AG - Technical Assistance (TA)	Projects providing, by way of action grants, financial support to help applicants prepare integrated projects, and in particular to ensure that those projects comply with the timing, technical and financial requirements of the LIFE Programme.	<p>The target are NGOs which pursue an aim of general Union interest, are primarily active in the field of environment and/or climate action and are involved in the development, implementation and enforcement of Union policy and legislation.</p>
Operating Grants (OG)	Grants to support the working of non-governmental organisations. These grants are awarded according to a list created through the NGO LIFE Framework Partnership Agreement. Selected NGOs will be invited to sign a bi-annual Framework Partnership Agreement (FPA) and to submit a yearly work programme in view of signing a Specific Grant Agreement (SGA).	

**Management of the Programme**

The LIFE programme will be managed by the Commission services themselves (DG Environment and DG Climate Action) or by the Executive Agency (EA) to which this task has been delegated in direct management. The EA will act within the limits of the delegation according to the Commission Decision COM(2013)9414 and under the supervision of the Commission services. The overall responsibility for the programme remains with the Commission. External experts may be contracted to support the Commission services and/or the EA in their work.

**Complementarities with other funding**

Environmental and climate requirements should be integrated into the Union's policies and activities. The LIFE Programme should therefore be complementary to other Union funding programmes, including the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agriculture Guarantee Fund, the European Agricultural Fund for Rural Development, the European Maritime and Fisheries Fund, and Horizon 2020 - The Framework Programme for Research and Innovation.

The design of the programme is made in order to allow synergies with other EU funds while avoiding overlap with other Union policies and financial instruments as far as possible. This will mainly be achieved through the eligibility criteria for the different project types and orientations in the application guidelines accompanying the calls.

The LIFE Programme should also encourage the uptake of the results of environmental and climate-related research and innovation of Horizon 2020. Within this context it should offer co-financing opportunities for projects with clear environmental and climate benefits in order to ensure synergies between the LIFE Programme and Horizon 2020. Coordination is required to prevent double funding.

**Table B.12. Civil Protection**

	<b>CIVIL PROTECTION</b>	<b>Mix of domains</b>			
		Direct support for public R&D and provision of public R&D infrastructure	Support for private R&D and innovation capacity building in the corporate sector	Strengthening the linkages between the various participants within the innovation system, especially between public R&D and the private sector	Enhancing the framework conditions for innovation
<b>Fields of action</b>	Agriculture, fisheries and foods				
	Business				
	Climate Action				
	Cross-cutting policies				
	Culture, Education and youth				
	Economy, finance and tax				
	Employment and social rights				
	Energy and Natural resources				
	Environment, consumers and health				
	External relations and foreign affairs				
	Justice, home affairs and citizen's rights				
	Regions and local development				
	Science and technology			Preparedness Prevention	
	EU explained				
	Transport and Travel				

The EU Civil Protection Mechanism fosters cooperation among national civil protection authorities across Europe to enable coordinated assistance from the participating states to victims of natural and man-made disasters in Europe and elsewhere. The protection shall cover primarily people, but also the environment and property, including cultural heritage, against all kinds of natural and man-made disasters, including the consequences of acts of terrorism, technological, radiological or environmental disasters, marine pollution, and acute health emergencies, occurring inside or outside the Union.



Types of Instruments	Explanation	Standard Eligibility Conditions
Prevention	To fulfil the prevention objectives and carry out prevention actions, the Commission shall: take action to improve the knowledge base (and improve its access) on disaster risks and facilitate the sharing of knowledge, best practices and information; establish and regularly update a cross-sectoral overview and map of natural and man-made disaster risks the Union may face; encourage on preparing national civil protection systems to cope with the impact of climate change; promote and support the development and implementation of Member States' risk management activity through the sharing of good practices, and facilitate access to specific knowledge and expertise on issues of common interest; compile and disseminate the information made available by Member States; report periodically to the European Parliament and to the Council on the progress made; awareness-raising, public information and education; promote prevention measures in the Member States and third countries;	Grants awarded under this Decision may be awarded to legal persons, whether governed by private or public law.
Preparedness	Support and complement the efforts of Member States in the field of disaster prevention, focusing on areas where cooperation provides added value. The Commission shall carry out the following preparedness actions: manage the ERCC (Emergency Response Coordination Centre); manage a Common Emergency Communication and Information System (CECIS); establish and manage the capability to mobilise and dispatch expert teams, responsible for: (i) assessing the needs that can possibly be addressed under the Union Mechanism in the state requesting assistance, (ii) facilitating, when necessary, the coordination of disaster response assistance on site and liaising with the competent authorities of the state requesting assistance, and (iii) supporting the requesting state with expertise on prevention, preparedness or response actions; take, within its sphere of competence, the necessary actions to facilitate host nation support, including developing and updating, together with Member States, guidelines on host nation support, on the basis of operational experience; support the creation of voluntary peer review assessment programmes for the Member States' preparedness strategies.	

#### **Management of the Programme**

The Civil Protection Mechanism is designed, managed and implemented by the European Commission, namely, DG Humanitarian Aid and Civil Protection (ECHO).

#### **Complementarities with other funding**

Exploit synergies with relevant Union initiatives, such as the European Earth Observation Programme (Copernicus), the European Programme for Critical Infrastructure Protection (EPCIP) and the Common Information Sharing Environment (CISE).

**Table B.13. Consumers**

	<b>Consumers</b>	Mix of domains			
		Direct support for public R&D and provision of public R&D infrastructure	Support for private R&D and innovation capacity building in the corporate sector	Strengthening the linkages between the various participants within the innovation system, especially between public R&D and the private sector	Enhancing the framework conditions for innovation
Fields of action	Agriculture, fisheries and foods				
	Business				
	Climate Action				
	Cross-cutting policies				
	Culture, Education and youth				
	Economy, finance and tax				
	Employment and social rights				
	Energy and Natural resources				
	Environment, consumers and health				
	External relations and foreign affairs				
	Justice, home affairs and citizen's rights				
	Regions and local development				
	Science and technology				
	EU explained				
	Transport and Travel				

#### **Consumer Programme**

The Consumers programme helps ensure protection for consumers. It contributes to Europe 2020 ambitions of growth and competitiveness by promoting the digitalization of processes, sustainable growth by promoting a sustainable pattern of consumption, social inclusion by protecting vulnerable consumers and smart regulation by enforcing constant market monitoring.

**The actions within the programme do not promote directly innovation at market level, given that, it is not foreseen that the Consumer programme contributes directly to specific corporate activities.**

Types of instruments	Explanation	Standard Eligibility Conditions
Grants	Assisting consumers on cross-border issues, including through the provision of adequate redress; Gathering consumer evidence informing policy-makers of the European Union and of the Member States; Supporting consumer organisations at the Union level; Fulfilling the legal obligations deriving from the legislation in the field of consumer protection; Complementing and enhancing the efficiency of measures undertaken at national level, such as joint actions in the fields of product safety and of consumer rights enforcement; contributing to the capacity building of national consumer organisations and sharing good practices in the field of consumer education.	Funding is available for government entities, public bodies and national and EU level consumer organisations.
Procurement (calls for tenders and framework contracts)	Conferences, expert meetings, seminars, communication activities may be organised, surveys and studies and impact assessments may be undertaken as far as they are needed to monitor the proper implementation of existing legislation or to prepare, or accompany new legislation or to respond to policy changes in the area covered by the Programme.	Defined according to each case.
Actions with Indirect Management	Under indirect management, the European Commission entrusts budget implementation tasks to: partner countries (or to bodies designated by them), namely international organisations, development agencies of EU Member States or other bodies.	Entities previously identified.

#### **Management of the Programme**

The Commission (DG Health and Food) shall implement the Programme by means of annual work programmes, entrusting Chafea (Consumer, Health, Agriculture and Food Executive Agency) with some tasks.

#### **Complementarities with other funding**

The Commission shall, in cooperation with the Member States, ensure overall consistency and complementarity between the Programme and other relevant Union policies, instruments and actions, in particular under the 2014-20 Multiannual 'Rights, Equality and Citizenship' programme.

**Table B.14. Creative Europe**

	<b>CREATIVE</b>	<b>Mix of domains</b>			
		Direct support for public R&D and provision of public R&D infrastructure	Support for private R&D and innovation capacity building in the corporate sector	Strengthening the linkages between the various participants within the innovation system, especially between public R&D and the private sector	Enhancing the framework conditions for innovation
<b>Fields of action</b>	Agriculture, fisheries and foods				
	Business				
	Climate Action				
	Cross-cutting policies				
	Culture, Education and youth				MEDIA, FI
	Economy, finance and tax				
	Employment and social rights				
	Energy and Natural resources				
	Environment, consumers and health				
	External relations and foreign affairs				
	Justice, home affairs and citizen's rights				
	Regions and local development				
	Science and technology				
	EU explained				
	Transport and Travel				

Creative Europe is the Programme to support the European Culture and Creative sector. In the Regulation establishing the programme, it is stated that cultural and creative sectors are a source of innovative ideas that can be turned into products and services that create growth and jobs and help address societal changes.

<b>Types of instruments</b>	<b>Explanation</b>	<b>Standard Eligibility Conditions</b>
CULTURE	The sub programme CULTURE acts in the field of reinforcing the European culture and creative sector's capacity to operate transnationally and support promoting transnational circulation and mobility;	Applicant organisations must be active in the cultural and creative sectors.
MEDIA	The sub programme MEDIA acts in the field of reinforcing the European audio visual sector's capacity to operate transnationally and promoting transnational circulation;	Applicant organisations must be active in the cultural and creative sectors.
Financial Instrument - Guarantee Facility FI	The Guarantee Facility shall operate as a self-standing instrument and shall have the following priorities: (a) to facilitate access to finance for SMEs and micro, small and medium-sized organisations in the cultural and creative sectors; (b) to improve the capacity of participating financial intermediaries to assess the risks associated with SMEs and micro, small and medium-sized organisations in the cultural and creative sectors and with their projects, including through technical assistance, knowledge-building and networking measures.	SMEs and micro, small and medium-sized organisations in the cultural and creative sectors.

#### **Management of the Programme**

The EC is responsible for the design of the Programme, setting the general and specific objectives through annual work programmes. The Commission has entrusted the Education, Audio Visual and Culture Executive Agency (EACEA) with the implementation of the Programme.

#### **Complementarities with other funding**

The Commission, in cooperation with the Member States, shall ensure the overall consistency and complementarity of the Programme with:

- (a) relevant Union policies, such as those in the fields of education, employment, health, the internal market, the digital agenda, youth, citizenship, external relations, trade, research and innovation, enterprise, tourism, justice, enlargement and development;
- (b) other relevant Union funding sources in the field of culture and media policies, in particular the European Social Fund, the European Regional Development Fund and the research and innovation programmes, as well as the financial instruments relating to justice and citizenship, external cooperation programmes and the pre-accession instruments.

**Table B.15. Third Health Programme**

	<b>HEALTH</b>	<b>Mix of domains</b>			
		Direct support for public R&D and provision of public R&D infrastructure	Support for private R&D and innovation capacity building in the corporate sector	Strengthening the linkages between the various participants within the innovation system, especially between public R&D and the private sector	Enhancing the framework conditions for innovation
<b>Fields of action</b>	Agriculture, fisheries and food				
	Business				
	Climate Action				
	Cross-cutting policies				
	Culture, Education and youth				
	Economy, finance and tax				
	Employment and social rights				
	Energy and Natural resources				
	Environment, consumers and health	P		P	
	External relations and foreign affairs				
	Justice, home affairs and citizen's rights				
	Regions and local development				
	Science and technology				
	EU explained				
	Transport and Travel				

The Health Programme established for the period from 2014 to 2020 is the third multi-annual programme for Union action in the field of health. The general objectives of the Programme shall be to complement, support and add value to the policies of the Member States to improve the health of Union citizens and reduce health inequalities by promoting health, encouraging innovation in health, increasing the sustainability of health systems and protecting Union citizens from serious cross-border health threats.

Types of instruments	Explanation	Standard Eligibility Conditions
Projects (P)	A project is a management approach of organising resources. It is a collaborative effort between different organisations in various EU Member States, which join forces to perform various tasks on a common set of objectives for a defined period of time. On this basis the Consumer, Health and Food Executive Agency (Chafea) organises every year a call for proposals. Only proposals that directly correspond to the topic and description as set out in the annual work programme will be considered for funding.	Legally established organisations, including public authorities and public sector bodies, in particular research and health institutions, universities, higher education establishments and non-governmental organizations. At least three partners (separate legal entities) from different countries.
Joint Actions (JA)	Grants for actions co-financed with Member State authorities. Joint Actions have a clear EU added value and are co-financed either by competent authorities that are responsible for health in the Member States or in the third countries participating in the Programme, or by public sector bodies and non-governmental bodies mandated by those competent authorities. Joint Actions' proposals should provide a genuine European dimension in order to make sense both technically and in terms of policy.	The Commission sends invitation letters to all EU Member States and other countries participating in the 3rd Health Programme, asking them to nominate the participants in the Joint Actions listed in the annual work programme. Public sector bodies and non-governmental bodies from the above countries can participate in Joint Actions, if they are mandated by competent authorities through a transparent procedure. Depending on the scope of the action previous Joint Actions involve on average 25 partners.
Public Procurement (PP)	Procurement covers activities such as the evaluation and monitoring of actions and policies; studies; provision of advice, data and information on health; scientific and technical assistance; communication, awareness-raising and dissemination of results; and information technology applications in support of policies. Framework contracts and new service contracts will be used.	Legally established organisations.
Operating Grants (OG)	Under the 3rd Health Programme (2014-2020), the European Union can offer support to finance some of the core operating costs for non-governmental bodies that promote the health agenda in line with the Programme. The purpose of an operating grant is to provide financial support towards the functioning of a body - over a period that is equivalent to its accounting year - in order to carry out a set of core activities.	Eligible entities must be: non-governmental, non-profit-making and independent of industry, commercial and business or other conflicting interests; working in the public health area, playing an effective role in civil dialogue processes at Union level and pursuing at least one of the specific objectives of the Programme; Active at Union level in at least half of the Member States, and have a balanced geographical coverage of the Union.

**Management of the Programme**

The 3rd health programme is managed by the EC (DG Health and food Safety) or by the Consumers, Health and Food Executive Agency (Chafea).

**Complementarities with other funding**

The Commission shall, in cooperation with the Member States, ensure overall consistency and complementarity between the Programme and other policies, instruments and actions of the Union, including those of the relevant Union agencies, notably with relevant research projects funded under the 7th and Horizon 2020 Framework Programme for Research and Innovation.



**Table B.16. Justice**

	<b>JUSTICE</b>	<b>Mix of domains</b>			
		Direct support for public R&D and provision of public R&D infrastructure	Support for private R&D and innovation capacity building in the corporate sector	Strengthening the linkages between the various participants within the innovation system, especially between public R&D and the private sector	Enhancing the framework conditions for innovation
<b>Fields of action</b>	Agriculture, fisheries and foods				
	Business				
	Climate Action				
	Cross-cutting policies				
	Culture, Education and youth				
	Economy, finance and tax				
	Employment and social rights				ANALYTIC
	Energy and Natural resources				
	Environment, consumers and health				
	External relations and foreign affairs				
	Justice, home affairs and citizen's rights				ANALYTIC
	Regions and local development				
	Science and technology				
	EU explained				
	Transport and Travel				

The Justice Programme shall contribute to the further development of a European area of justice based on mutual recognition and mutual trust, in particular by promoting judicial cooperation in civil and criminal matters. The objectives of the Programme shall be pursued through, in particular: (a) enhancing public awareness and knowledge of Union law and policies; (b) with a view to ensuring efficient judicial cooperation in civil and criminal matters, improving knowledge of Union law, including substantive and procedural law, of judicial cooperation instruments and of the relevant case-law of the Court of Justice of the European Union, and of comparative law; (c) supporting the effective, comprehensive and consistent implementation and application of Union instruments in the Member States and the monitoring and evaluation thereof; (d) promoting cross-border cooperation, improving mutual knowledge and understanding of the civil and criminal law and the legal and judicial systems of the Member States and enhancing mutual trust; (e) improving knowledge and understanding of potential obstacles to the smooth functioning of a European area of justice; (f) improving the efficiency of judicial systems and their cooperation by means of information and communication technology, including the cross-border interoperability of systems and applications.

Types of Instruments	Explanation	Standard Eligibility Conditions
Training activities (TA)	Training activities, such as staff exchanges, workshops, seminars, train-the-trainer events, including language training on legal terminology, and the development of online training tools or other training modules for members of the judiciary and judicial staff;	Bodies and entities legally established in Member States; European Free Trade Association (EFTA) countries, candidate countries, potential candidates and countries acceding to the Union. Bodies and entities which are profit-oriented shall have access to the Programme only in conjunction with non-profit or public organisations. Funding goes to public authorities, NGOs and other organisations for activities that further these aims.
Mutual learning, awareness and dissemination activities (AWARE)	Mutual learning, cooperation, awareness-raising and dissemination activities, such as the identification of, and exchanges concerning, good practices, innovative approaches and experiences; the organisation of peer reviews and mutual learning; the organisation of conferences, seminars, media campaigns, including in the online media, information campaigns, including institutional communication on the political priorities of the Union as far as they relate to the objectives of the Programme; the compilation and publication of materials to disseminate information about the Programme and its results; the development, operation and maintenance of systems and tools using information and communication technologies, including the further development of the European e-Justice portal as a tool to improve citizens' access to justice;	
Support activities (SUPPORT)	Support for main actors whose activities contribute to the implementation of the objectives of the Programme, such as support for Member States in the implementation of Union law and policies, support for key European actors and European-level networks, including in the field of judicial training; and support for networking activities at European level among specialised bodies and entities as well as national, regional and local authorities and non-governmental organisations.	
Analytical activities (ANALYTIC)	Analytical activities, such as the collection of data and statistics; the development of common methodologies and, where appropriate, indicators or benchmarks; studies, researches, analyses and surveys; evaluations; the elaboration and publication of guides, reports and educational material; workshops, seminars, experts' meetings and conferences;	

#### Management of the Programme

The Justice programme is designed, managed and implemented by the European Commission, namely, DG Justice and Consumers.

#### Complementarities with other funding

The Commission, in cooperation with the Member States, shall ensure overall consistency, complementarity and synergies with other Union instruments including, inter alia, the Rights, Equality and Citizenship Programme, the Instrument for financial support for police cooperation, preventing and combating crime, and crisis management, as part of the Internal Security Fund, the Health for Growth Programme, the Erasmus+ Programme, the Horizon 2020 Framework Programme and the Instrument for Pre-accession Assistance (IPA II).

**Table B.17. Rights, Equality and Citizenship**

	<b>RIGHTS EQUALITY AND CITIZENSHIP</b>	<b>Mix of domains</b>			
		Direct support for public R&D and provision of public R&D infrastructure	Support for private R&D and innovation capacity building in the corporate sector	Strengthening the linkages between the various participants within the innovation system, especially between public R&D and the private sector	Enhancing the framework conditions for innovation
<b>Fields of action</b>	Agriculture, fisheries and foods				
	Business				
	Climate Action				
	Cross-cutting policies				
	Culture, Education and youth				
	Economy, finance and tax				
	Employment and social rights				
	Energy and Natural resources				
	Environment, consumers and health				
	External relations and foreign affairs				
	Justice, home affairs and citizen's rights				
	Regions and local development				
	Science and technology				
	EU explained				ANALYTIC, SUPPORT
	Transport and Travel				

The Rights and Equality Citizenship Programme was developed to the further development of an area where equality and the rights of persons as enshrined in the TEU, in the TFEU, in the Charter and in the international human rights conventions to which the Union has acceded, are promoted, protected and effectively implemented.

<b>Types of instruments</b>	<b>Explanation</b>	<b>Standard Eligibility Conditions</b>
Training activities (TA)	Training activities, such as staff exchanges, workshops, seminars, train-the-trainer events and the development of online training tools or other training modules;	<p>Access to the Programme shall be open to all bodies and entities legally established in Member States, the European Free Trade Association (EFTA) countries and candidate countries, potential candidates and countries acceding to the Union.</p> <p>Bodies and entities which are profit-oriented shall have access to the Programme only in conjunction with non-profit or public organisations.</p>
Mutual learning, awareness and dissemination activities (AWARE)	Mutual learning, cooperation, awareness-raising and dissemination activities, such as the identification of, and exchanges concerning, good practices, innovative approaches and experiences; the organisation of peer reviews and mutual learning; the organisation of conferences, seminars, media campaigns, including in the online media, information campaigns, including institutional communication on the political priorities of the Union as far as they relate to the objectives of the Programme; the compilation and publication of materials to disseminate information about the Programme and its results; the development, operation and maintenance of systems and tools using information and communication technologies;	
Support activities (SUPPORT)	Support for main actors whose activities contribute to the implementation of the objectives of the Programme, such as support for NGOs in the implementation of actions with European added value, support for key European actors, European-level networks and harmonised services of social value; support for Member States in the implementation of Union law and policies; and support for networking activities at European level among specialised bodies and entities as well as national, regional and local authorities and NGOs, including support by way of action grants or operating grants.	
Analytical activities (ANALYTIC)	Analytical activities, such as the collection of data and statistics; the development of common methodologies and, where appropriate, indicators or benchmarks; studies, researches, analyses and surveys; evaluations; the elaboration and publication of guides, reports and educational material; workshops, seminars, experts' meetings and conferences.	

#### **Management of the Programme**

The Rights, Equality and Citizenship programme is designed, managed and implemented by the European Commission, namely, DG Justice and Consumers.

#### **Complementarities with other funding**

Activities implemented under this work programme shall ensure consistency, complementarity and synergies with activities supported by other Union instruments including the Justice Programme, the "Europe for Citizens" Programme, the programmes in the areas of employment and social affairs; in the areas of home affairs, such as the Internal Security Fund and the Asylum, Migration and Integration Fund; and in the areas of health and consumer protection; education, training, youth and sport, such as the Erasmus+ programme; information society; enlargement, in particular the Instrument for Pre-accession Assistance (IPA II), and the European Structural and Investment Funds.

**Table B.18. Europe for Citizens**

	<b>EUROPE FOR CITIZENSHIP</b>	<b>Mix of domains</b>			
		Direct support for public R&D and provision of public R&D infrastructure	Support for private R&D and innovation capacity building in the corporate sector	Strengthening the linkages between the various participants within the innovation system, especially between public R&D and the private sector	Enhancing the framework conditions for innovation
<b>Fields of action</b>	Agriculture, fisheries and foods				
	Business				
	Climate Action				
	Cross-cutting policies				
	Culture, Education and youth				
	Economy, finance and tax				
	Employment and social rights				
	Energy and Natural resources				
	Environment, consumers and health				
	External relations and foreign affairs				
	Justice, home affairs and citizen's rights				
	Regions and local development				
	Science and technology				
	EU explained				
	Transport and Travel				

Under the overall aim of bringing the Union closer to citizens, the general objectives of the Programme are the following:

- (a) to contribute to citizens' understanding of the Union, its history and diversity;
- (b) to foster European citizenship and to improve conditions for civic and democratic participation at Union level.

**Even though the programme promotes research activities, its range of influence does not reach market and therefore does not fit into the definition of innovation used in the present study.**

<b>Types of instruments</b>	<b>Explanation</b>	<b>Standard Eligibility Conditions</b>
Mutual Learning and Cooperation activities (MLCA)	Citizens' meetings, town-twinning, networks of twinned towns, transnational partnerships, remembrance projects with a European dimension, exchanges based, inter alia, on the use of information and communication technologies (ICT) and/or social media.	The Programme shall be open to all stakeholders promoting European citizenship and integration, in particular local and regional authorities and organisations, twinning committees, European public policy research organisations (think-tanks), civil society organisations (including survivors' associations), and cultural, youth, educational and research organisations. All actions will be implemented on a transnational basis or should have a European dimension. Actions will encourage the mobility of citizens and the exchange of ideas within the Union.
Structural support for Organizations / Operating Grants (OG)	Support to entities pursuing an aim of general Union interest and Europe for Citizens Contact Points;	Civil society organisations; European public policy research organisations (think tanks); Platforms of pan-European organisations.
EU analytical activities (AA)	Studies focusing on issues relating to the objectives of the Programme.	The Programme shall be open to all stakeholders promoting European citizenship and integration, in particular local and regional authorities and organisations, twinning committees, European public policy research organisations (think-tanks), civil society organisations (including survivors' associations), and cultural, youth, educational and research organisations. All actions will be implemented on a transnational basis or should have a European dimension. Actions will encourage the mobility of citizens and the exchange of ideas within the Union.
Awareness raising and dissemination activities (ARDA)	Union level events including conferences, commemorations and award ceremonies; peer reviews, expert meetings and seminars.	

#### **Management of the Programme**

Europe for Citizens is implemented by the Executive Agency for Education, Audio visual and Culture (EACEA). The European Commission supervises the EACEA's work and is responsible for all tasks implying political choices - notably defining strategies and priorities for action. The Commission shares good practices and results.

#### **Complementarities with other funding**

There should be important synergies with other Union programmes, namely in the areas of education, vocational training and youth, sport, culture and the audio visual sector, fundamental rights and freedoms, social inclusion, gender equality, combating discrimination, research and innovation, information society, enlargement and the external action of the Union.

**Table B.19. Galileo and Egnos**

	<b>GALILEO AND EGNOS</b>	<b>Mix of domains</b>			
		Direct support for public R&D and provision of public R&D infrastructure	Support for private R&D and innovation capacity building in the corporate sector	Strengthening the linkages between the various participants within the innovation system, especially between public R&D and the private sector	Enhancing the framework conditions for innovation
<b>Fields of action</b>	Agriculture, fisheries and foods				
	Business				
	Climate Action				
	Cross-cutting policies				
	Culture, Education and youth				
	Economy, finance and tax				
	Employment and social rights				
	Energy and Natural resources				
	Environment, consumers and health				
	External relations and foreign affairs				
	Justice, home affairs and citizen's rights				
	Regions and local development				
	Science and technology		ESA		
	EU explained				
	Transport and Travel				

The aim of the European satellite navigation policy is to provide the Union with two satellite navigation systems, the system established under the Galileo programme and the EGNOS system ('the systems'). These systems arise respectively from the Galileo and EGNOS programmes. Each infrastructure consists of satellites and a network of ground stations. The aim of the Galileo programme is to establish and operate the first global satellite navigation and positioning infrastructure specifically designed for civilian purposes, which can be used by a variety of public and private actors in Europe and worldwide. The aim of the EGNOS programme is to improve the quality of open signals from existing global navigation satellite systems ('GNSS') suitable for use by aircraft, ships, trains and other forms of transport.

The systems are infrastructures set up as trans-European networks of which the use extends well beyond the national boundaries of the Member States. Furthermore, the services offered through these systems contribute to a wide range of economic and social activities, including the development of trans-European networks in the areas of transport, telecommunications and energy infrastructures.

<b>Types of instruments</b>	<b>Explanation</b>	<b>Standard Eligibility Conditions</b>
Horizon 2020 - Space (Space)	<i>This instrument is analysed within the scope of Horizon 2020</i>	-
ESA funding (ESA)	ESA funding has the purpose of preserving and expanding the technology base of European industry, ensuring its competitiveness and giving rise to commercial products and services. The programme covers various different technical maturity levels and domains, in both basic and specific technical fields.	Space and technology industry. As a general rule, participation in ESA of R&D actions: is open to all firms (including institutes and universities); has a European dimension (since referring to Member States); is in line with open competition.

#### **Management of the Programme**

The implementing body is the European GNSS Agency and the European Space Agency(ESA).

#### **Complementarities with other funding**

The appropriate instrument to finance research and innovation activities relating to the development of GNSS-based applications is Horizon 2020. However, a very specific upstream part of research and development activities should be financed from the budget allocated to the Galileo and EGNOS programmes, where such activities concern fundamental elements such as Galileo-enabled chipsets and receivers, which will facilitate the development of applications across different sectors of the economy.